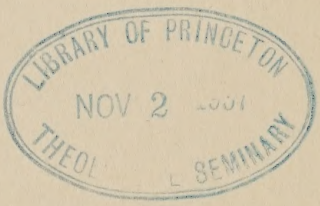

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THE PSYCHOLOGY OF BELIEF

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PREFACE

In this work, as in my monograph *Conation and Our Conscious Life,* I have followed a line of thought carried by James Ward, G. F. Stout, and William McDougall. I wish to express my profound indebtedness to these great thinkers, particularly to the latter, who is the only one I have been privileged to know personally. His companionship during several years has been my continual source of inspiration, and his encouragement has powerfully urged my labor.

I am also deeply indebted for valuable suggestions to the following graduate students of Duke University, who, during the spring term of 1935, were members of my seminar on The Psychology of Belief: Mrs. S. H. MacColl, Miss M. Pegram, and Messrs. L. Flinn, J. J. Harton, H. G. McCurdy, J. B. Schoolland, and Burke M. Smith.

Finally, I wish to express my sincere gratitude to Duke University for undertaking, through its press, to publish my present work, and to all members of the Press Board upon whom has fallen the burden of seeing it through the process of printing.

HELGE LUNDHOLM.

CAMP ALICE, MOUNT MITCHELL
JULY, 1935

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CONTENTS

		PAGE
PREFACE		v
INTRODUCTION AND GENERAL DISPOSITION OF THE SURVEY		3
CHAPTER		
I.	THE ADVENT AND DECLINE OF BELIEF IN FAIRY-LAND	9
II.	THE CASTING AND THE CLASM OF THE HERO-IKONS	25
III.	SUGGESTION AS THE INDUCTOR OF BELIEF	33
IV.	THE EMOTIONAL INDUCTION OF BELIEF	42
V.	THE RATIONAL INDUCTION OF BELIEF	59
VI.	G. F. STOUT: ON THE PSYCHOLOGY OF BELIEF-ENGENDERMENT	71
VII.	WISDOM OF THE AGES: ON BELIEF-ENGENDERMENT	79
VIII.	TRUE AND FALSE BELIEF	86
IX.	SELF-DECEPTION OF THE NORMAL MAN	105
X.	DELUSIONS IN THE MANIC-DEPRESSIVE PSYCHOSIS	114
XI.	DELUSIONS IN SCHIZOPHRENIA	125
XII.	THE INDIVIDUAL MEMORY-CONTINUUM OF MAN	133
XIII.	THE CONATIVE PROPERTY OF BELIEF	141
XIV.	BELIEF AS A GUIDE OF CONDUCT	150
XV.	C. SPEARMAN'S "G" AND W. MCDOUGALL'S "INSTRUMENTAL INTELLECT"	162
XVI.	APPREHENSION WITHOUT DEFERENCE	176
XVII.	G. F. STOUT AND W. MCDOUGALL: ON APPREHENSION WITHOUT DEFERENCE	200
XVIII.	BELIEF AS A MODE OF EXPERIENCING	211
SUMMARY		221
BIBLIOGRAPHICAL REFERENCES		244

THE PSYCHOLOGY OF BELIEF

Introduction and General Disposition of the Survey

JAMES WARD has pointed out the different significance of the concepts of *belief* and *certainty* for epistemology, on the one hand, and for psychology, on the other. He writes:

"There are psychological and there are epistemological discussions innumerable concerning belief and certainty. It is important to keep the two discussions distinct and yet they are almost invariably blended; for psychology and epistemology themselves are only gradually getting out of each other's way, and the fact that they often use the same terms renders such differentiation difficult. Moreover they have both used the same terms because both alike relate to experience, though from different standpoints or under different aspects. . . .

"Belief is sometimes used in a wider, sometimes in a narrower sense, the one including certainty, the other excluding it: the wider belonging to the psychological, the narrower to the epistemological standpoint. Epistemology has constantly to distinguish between belief and knowledge as different in *kind,* since belief is always, and (scientific) knowledge is never, a private and personal matter. Psychologically, however—for the individual that is to say—his belief and his knowledge (or certainty) differ only in *degree.* Certainty is then regarded as the upper limit of such personal belief: it may be represented by unity, lower degrees being represented by fractions, as in the 'odds' of betting transactions, for example. But epistemology also contrasts knowledge with probability in a similar fashion, save that the difference is then referred not to the psychological causes of belief but to its logical grounds. With these the epistemologist is exclusively concerned; the psychologist, however, not at all. His business is primarily with the believing, together with its causes and effects, as subjective, not with the grounds of the belief itself, as objective: what interests him is a living process, not a logical structure. Despite this wide difference the one term 'certainty' is often applied to both; though they are dis-

tinguished as respectively subjective certainty and objective certainty: so we say indifferently 'I am certain of' and 'It is certain that.' Such phraseology is often convenient; yet where scientific exactness is important it is to be avoided, and there are better terms available. At all events psychology is not interested in objective certainty or *truth* as such, but only in subjective certainty or *conviction.* Truth belongs entirely to the universe of propositions: certainty implies a complete state of mind. In this state propositions enter not as true or false but simply as believed or not believed. . . ."[1]

The present work deals with belief, conviction, and certainty, exclusively as psychological acts and psychological states of mind.

Concerning the definition of belief as a psychological act, there seems to be a fair agreement among various writers who have dealt with the topic. Although the formulations may differ, there is mostly implied a common consensus of opinion to this effect: to believe is to think something and coincidingly to assert its reality. Thus James Ward: ". . . We may begin . . . by examining . . . the cases in which the characteristics of belief are clearest, the cases, that is, where the objective situation before the subject is such that he may, and if challenged would, say: 'I am certain.' . . . I am certain is equivalent to I am convinced—metaphorically, I am overcome and forced to assent."[2] William James: ". . . In the case of acquiescence or belief, the object is not only apprehended by the mind, but is held to have reality. Belief is thus the mental state or function of cognizing reality."[3] G. F. Stout: "Judgment is the Yes-No consciousness; under it I include every mode and degree of affirmation and denial—everything in the nature of an acknowledgment explicit or implicit of objective existence. I use the term Belief as a convenient variant for Judgment . . . both words have to be stretched so as to embrace cases to which they are not usually applied. Reid says that when we perceive a tree, we have a 'conception' of the tree and a *belief* in its existence. In this I follow him. . . . In giving a wide scope to the term Belief, I follow such

[1] *Psychological Principles,* pp. 347-348.
[2] *Ibid.,* pp. 348-349. [3] *Principles of Psychology,* II, 283.

writers as James Mill, who comprehends under this word 'every species of conviction or assurance; the assurance of what is before our eyes, as of that which we only remember or expect; of what we know by direct perception, as well as of what we accept on the evidence of testimony or reasoning'. . . ."[4] William McDougall: ". . . When we make a judgment, express it in a proposition, and believe that proposition to be true, we always imply the reality of the subject of the proposition, in the sense that we conceive this subject as something that has a certain continuity of existence, that remains self-identical in spite of changes. . . . The universal formula of belief is—this is X. And the word 'is' means real existence, something of determinate nature which is independent of our desire and will. . . ."[5]

Disbelief is not the opposite of belief, for disbelief is negative belief. In disbelief, to express the matter somewhat paradoxically, *the unreality of a thing is a reality,* or a positive belief. The opposite of belief, in a certain sense and with certain reservations, is doubt. These again are propositions upon which most psychological writers agree. Thus William James: ". . . we . . . never disbelieve anything except for the reason that we believe something else which contradicts the first thing. Disbelief is thus an incidental complication to belief, and need not be considered by itself. . . . *The true opposite of belief,* psychologically considered, *are doubt and inquiry, not disbelief.* . . ."[6] G. F. Stout: ". . . Disbelief must be regarded as a case of belief; to disbelieve a proposition is to believe its contradictory. But denial, no less than affirmation, is an acknowledgment of objective existence. The denial that William Tell ever lived, is the expression of a belief about historical matter of fact. It means that the ideas which we connect with the name of Tell are incompatible with the actual course of events. . . . Whether doubt is or is not a phase of belief, it certainly seems to presuppose belief. It presupposes belief in a disjunctive judgment. It consists in acknowledging the reality of one or other of two or more alter-

[4] *Analytic Psychology,* I, 97-98.
[5] *Outline of Psychology,* pp. 369, 375.
[6] *Principles of Psychology,* II, 284.

natives without deciding between them. Hesitation between alternatives presupposes that the nature of objective existence postulates one of them to the exclusion of the others. Doubt is thus an indeterminate affirmation of a determinate reality. On the other hand, it may fairly be urged that precisely so far as the indeterminateness extends, precisely so far as the doubter is undecided, belief and disbelief, affirmation and denial are absent. . . ."[7] McDougall, I believe, acknowledges the opposition between belief and doubt when he states that belief in the highest sense is always preceded by doubt, and that judgment is the mental process which converts doubt into belief.

McDougall, in his article "Belief as a Derived Emotion," offers an orienting analysis of the various aspects of the psychology of belief.

"The *psychology of belief,*" he says, "presents three main problems which may with advantage be sharply distinguished, though they cannot be discussed in entire separation: (1) the problem of the conditions which engender belief; (2) the nature of the state which we call holding a belief, a state which continues when the topic concerned is not present to consciousness; (3) the problem of the nature and proper classification of belief as a mode of being conscious, a quality of experience which qualifies our thinking of that in which we believe."[8]

McDougall himself has dealt with all these aspects of belief, but most extensively with the third problem.

It is my intention in the present work to explore the psychology of belief in all the three aspects distinguished by McDougall. Accordingly, my treatise falls into three parts, each corresponding to one of these aspects.

The first part, including Chapters I-XI, deals with the processes of belief-engenderment. I endeavor to defend the proposition that there are two great principles effective in the induction of belief, one emotional principle and one rational. My treatment of belief-engenderment falls into three subdivisions.

[7] *Analytic Psychology,* I, 99, 101.
[8] *Psychological Review,* XXVIII, No. 5 (1921).

A: The first subdivision, covering Chapters I-II, is in a sense illustrative. It describes the rise of the naïve beliefs of childhood and early boyhood, such as the belief in fairyland and the beliefs attached to immature hero-worship; these beliefs being held to be essentially emotionally determined. Then, it describes the correction of these beliefs with the maturation of rational consideration of things.

B: The second subdivision, including Chapters III-VII, offers first a brief survey of the minor rôle of suggestion in the induction of belief; then, it treats theoretically the two important principles of belief-engenderment, the emotional and the rational, the interpretation of these being based upon partially new hypotheses concerning psychological fundamentals which I presented in my earlier work, *Conation and Our Conscious Life.* Unavoidably my discussion will have to include extensive reviews of these hypotheses, also additional considerations in their support.

C: The third subdivision, including Chapters VIII-XI, constitutes a verification of the rôle of the emotional and rational principles of belief-engenderment, by demonstrating their relative significance in the delusion-formation of human adults, both in the normal man and in the mentally deranged. Here I bring to bear upon my problem theories which were already laid down in two earlier monographs: *The Manic-Depressive Psychosis* and *Schizophrenia,* and in a lengthy article entitled "Repression and Rationalisation." This division is headed by a general discussion of true and false belief (Chapter VIII).

The second main part of my treatise, covering Chapters XII-XV, deals with beliefs as enduring mental dispositions guiding human conduct. It propounds a hypothesis according to which a belief, as a unit of structure, is a thinking-striving disposition, its conative constituent being deference to a psychological object as the seat of certain known properties. The essence of this theory was outlined in *Conation and Our Con-*

scious Life, but much additional material is brought to its support in the present work. To this part is appended a chapter on the "G" factor and upon the nature of "intellect" (Chapter XV).

The third main part of my treatise, constituting Chapters XVI-XVIII, discusses belief as a mode of experiencing, the first two of these (Chapters XVI and XVII) taking up the very subtle problem whether or not there are certain attitudes in which man apprehends without coincidingly believing. The last chapter (Chapter XVIII) comprises a lengthy statement of McDougall's view of belief as a mode of experiencing, a criticism of the latter view in the light of the general theory of belief offered in the present work, and a substitutive interpretation of belief, doubt, and the other so-called prospective emotions of desire.

The title of my thesis, *The Psychology of Belief,* should not be allowed to suggest that I am writing upon matters of the psychology of religion. In fact, religious faith is very slightly touched upon in the present work, although, from the general discussion, any reader might draw his own conclusions as to the nature and origin of the latter.

CHAPTER I

The Advent and Decline of Belief in Fairy-Land

> Then take me on your knee, mother;
> And listen, mother of mine.
> A hundred fairies danced last night,
> And the harpers they were nine.
>
> Mary Howitt, *The Fairies of the Caldon Low.* St. 5.

> If but a beam of sober Reason play,
> Lo, Fancy's fairy frost-work melts away.
>
> Samuel Rogers, *Pleasure of Memory,* Pt. II.

A CHILD about the age of four will be prone to believe in the existence of fairies if stories about fairies are told to him. He will be likely to accept as true all propositions made by the story-teller concerning the nature and doings of fairies. Under the same circumstances, he will believe that there is a "big bad wolf" who catches and eats little children who disobediently run away from home. Though the above statements concerning the credulity of infants are based largely upon inference and upon more or less dim reminiscence on the part of grown-up people, there is no sufficient ground for doubting either their validity or generality; for, as William Stern writes: "When we see the child's absolute absorption as he listens to a fairy tale or tells an imaginary tale of his own, how earnestly he carries on his games, and his despair at any interruption, then we recognize that the illusion of reality is here complete indeed, or very nearly so. . . ."[1] Piaget, in evidence of the credulity referred to, quotes the following conversation between two little children, Cor and Viv: "Cor (7): *'Once I wrote to the rabbit that I'd like to see him. He didn't come.*—Viv (8): *Daddy found the letter in the garden. I expected he* [the rabbit] *had come along with the letter, and he didn't find Cor and he went away again.—I went into the garden he wasn't there and then I forgot about it.—He saw Cor wasn't there. He thought 'she's forgotten' and then after that he went away'.*" He comments upon the incident quoted: "Cor and Viv both believe in fairies, at least they do so to

[1] *Psychology of Early Childhood,* p. 274.

one another in their conversations, prolonging in this way an illusion which has lasted several months. They have built a house for fairies in which they place little notes in the evening. The above conversation bears upon the outcome of one of these missives. They are explaining a failure to each other and criticizing the course of events."[2]

How, psychologically, are these beliefs of childhood formed? Are they the expression merely of docility on the part of the child towards the tale-telling parent; in other words, are they the effect merely of successful suggestion exerted by the parent upon the child? This may be partly the case; that is, submission to the authority of the parent may be of significance in the child's acceptance of the story as the account of a reality. But submission to authority is probably not the only agent engendering in the child the beliefs referred to; it may be even a very minor factor, far less important than another to be considered presently.

It is evident that children are much inclined to let their imagination play around the themes of fairy tales, oftentimes even to the extent of elaborating these themes in what may be called a creative manner, both in waking and in actual dream. The latter inclination implies that the story has become the center of, or the central object of, impulses other than filial submission, impulses which persist and outlast the moment when the story was actually told by the parent. For submission requires the psychological presence of the authority, and, surely, when the little child indulges in fairy-fantasies, there is no place in his mind for the thought of the parent.

The impulses generating the enduring fairy-fantasies, I believe, might be of two general kinds: impulses of attraction or impulses of aversion, or, in other words, impulses which make respective contents, either desirable things or things to be avoided or escaped from. Such impulses—as is well known to anyone who has ever told stories to children—are actually called into play while the latter attend to the tale, and express themselves distinctly, facially or otherwise, in the attentive little listeners. Primarily they are probably called up sympathetically through the facial expression and the voice-intona-

[2] *The Language and Thought of the Child,* pp. 64-65.

tion of the story-teller; once brought into activity, they become important determinants of the meaning of the story. The former part of this statement is important, notably that the impulse or emotion of the little child is first called up by virtue of passive sympathy reacting to the facial expression and to the intonation of voice of the story-teller; for it is not the content of the story in the objective sense that evokes the impulse, it is rather the impulse or emotion already at play that gives content or meaning to the story. The order of cause and effect referred to is demonstrated spectacularly by the fact that, through using different facial expression and voice-intonation in telling the same story to two children, you may call forth entirely different reactions and induce entirely different meanings by your tale. Let us say that the story is the objectively pathetic one of a poor little dog who falls into the well and after a long struggle for life finally is drowned. By intonating your voice differently and by producing different facial expressions in telling this tale, you can make one of the children giggle most gleefully while you make the other cry heartbrokenly. But for such impulsive or, as we may also call it, emotional appeal, your story will remain meaningless to the child, and neither transitory nor enduring interest in it will ever be conveyed to the latter.

The impulse, more especially, evoked in connection with the story of fairy-land and its inhabitants and ruling events, might be a desire to associate and to play with the pretty little fairies and the jolly little gnomes, an impulse which can be identified as a derivative of the gregarious instinct; or it might be a desire to be kind to the poor little gnomes who are so tiny and frail, an impulse derived from the great protective instinct; or it might be the desire to possess the beauty of the little fairies (an "ugly duckling" longing), or a desire to possess merely their rich and lovely garments and gems, impulses arising conjointly from the assertive and acquisitive instinct. On the other hand, the impulses evoked in connection with the "big bad wolf" belong to another kind: aversion, fear, disgust, or some blend of the latter.[3]

[3] Stern implies the affective attitude of the child towards the fairy theme by emphasizing the compensatory nature of many children's creative fairy-

I suggest that the continual functioning around the themes of various tales of impulses, such as the ones described, engenders and enforces a belief in the reality of these themes, and I would argue this view simply as follows: irrefutably it is a basic psychological principle that a goal desired, at the time of desire, stands as the most real of things known, the existence of which we most emphatically assert in thought and deed. Thus, if continually and urgently, that is, desiringly, a little child is preoccupied with certain ideal themes and topics, these will gradually grow into firmly and enduringly established objects of belief.[4] This principle of belief-engenderment is essentially the one underlying *primitive credulity* which McDougall thinks applies even on the animal plane: "The animal accepts as real whatever object evokes any instinctive impulse. Primitive man does likewise. This is primitive credulity. . . . We tend to believe in the reality of whatever evokes an instinctive impulse. A sound in the night evokes fear and is interpreted as the movement of a beast of prey; the beast is imagined and accepted as real, in virtue of the strong impulse evoked."[5]

fantasy: ". . . The little child, meeting hindrances on every side, so dependent on grown-ups in its real activity, may well have some more or less indefinable sense of this oppressive power, and seeks freedom from it by flight into the world of imagination where he himself is lord and master—aye, in very truth, moulder and creator. Moreover, the stronger the illusion by means of which he loses himself in a life of his own creation, the stronger his feeling of liberation and the greater his pleasure" (William Stern, *Psychology of Early Childhood,* pp. 276-277).

[4] Stern repeatedly indicates the rôle of affect in the belief of little children. Thus, for instance: "'Real' for this early stage of life is simply what is keenly felt, and it remains real as long as feeling is absorbed in the experience." Or, discussing play, a mode of childhood activity that comes close to the fairy-fantasy: "Hilde has got fresh coverings for her dolls' beds, and now an intensive game; all day long, the dolls have to go to bed; get up and again go to bed. She tends her children with touching care, and in tones of motherly affection rocks them to sleep, asks them if they have slept well, and expects us to do the same when she comes in the morning with their perambulator into our bedroom. This is the expression of actual warm feeling, free from fancy or make-believe. And this is certainly no case of pure and simple fiction, but a remarkable mixture of real belief, half-belief, playful acquiescence and intentional make-believe. Just as we think: 'that is all conscious pretence'; in the next moment it is evident that the child is entirely under the sway of illusion and really believes what she says about the doll" (*ibid.,* pp. 273 and 275-276).

[5] *Outline of Psychology,* p. 373.

Will a human adult who, like the writer, continually reads fairy-tales and continually contemplates fairy picture books with aesthetic delight, will he like the little child acquire a conviction in the reality and existence of fairies? Normally not; and the reason is to be found in the second great principle by which beliefs of man are engendered, a principle that by its very nature is apt to conflict with the primitive principle of emotional induction of belief.

While we have traced the primitive emotional principle of belief-engenderment in the ascent of fairy-land in early childhood, we shall trace the second great principle of belief-engenderment in the decline of fairy-land in later childhood. This, however, requires a few preliminary reflections as to the relation of thinking process and emotional process in general.

Whenever normally we are urged to activity by an impulse —be the latter an instinct or a simple or complex sentiment— there is always something that is apprehended coincidently in a peculiarly intimate relation to the self. This is the direct corollary of the fact that the goal of any one impulse is always to realize a certain relation between a psychological object and the self, a relation which is felt to constitute the satisfaction of the need or desire of the impulse at work. Thus, when the little child, urged by food-hunger, reaches for the apple in the Christmas tree, this apple is psychologically in a peculiarly intimate relation to him, namely, the relation implied in being *that which he wishes to possess for the sake of devouring,* the realization of the latter relation being the goal of his food-hunger. In the same way, when the child in fear runs away from the dog, the latter is in a peculiarly intimate subjective relation to him, namely, in the relation of *that from which he wishes to be as distant as possible,* the realization of a relation of inaccessibility of himself to the dog being the goal of his fear at the time.

What I have said here is true, I believe, of the primitive functioning of any one impulse unit. It is no doubt true also of the little child's desires in regard to fairy-land and the "big bad wolf"; that is, whenever the child is urgently preoccupied with these themes, they are thought with paramount ego-reference. And I suggest that, as long as they are continually

thought with paramount ego-reference, they will remain psychological objects of firm belief. But they do not so remain. Somewhere between early childhood and adolescence, fairy-land declines as a reality, fades out as an ego-related value, or changes perhaps into a purely aesthetic one—its fictitious character in both instances becoming explicit.

By what psychological process does fairy-land decline as a reality in the thinking sphere of the little child; by what process is the belief in its existence turned into doubt or negative belief?

First, it has to be noted that, just as childhood beliefs can be partially induced by suggestion, they can also be reduced by that influence. When the child has reached a certain age, let us say the age of six, the parents may gradually explain to him that fairy-land and the "big bad wolf" after all do not actually exist. Such contra-suggestion against an established belief must be made with tact and discrimination; if not, the child will suffer serious disappointments, this being particularly the case whenever doubt is induced concerning matters of belief that have been to the child important positive values. Oftentimes doubt is induced not by the parents but by older playmates or by playmates of the child's own age who have already overcome the childhood beliefs. In such instances the destructive suggestions are frequently made with cruel brusqueness, the older child many times making fun of the younger's naïve belief. Pathetic incidents may then occur, as in the case of the little girl who came rushing home from school and, sobbing heartbrokenly, cried: "Mother, mother, Elly says her dad says there ain't no Santa Claus!" The ease with which the mother could reassure the child that Santa Claus would really return next Christmas, and with which she could thus bring back a happy smile to the tear-drenched little face, was certainly due not merely to her superior authority compared with Elly's dad, but also to the fact that the child's belief in Santa Claus was strongly enforced by wish or desire (emotion); the latter enforcement also accounting for the distress and disappointment coloring even the slightest shadow of doubt as to Santa's reality.

But, just as there is an ascent of belief in fairy-land and in the "big bad wolf" independently of suggestion, there is also,

I think, a decline of the latter beliefs that is independent—at any rate, in any direct sense—of submission to authority.

I have held forth that the little child at the age of four is inclined to view fairy-land and the "big bad wolf" with paramount ego-relation, or, as we might also say, with paramount centripetal relation to the self, this being a function of the child's emotional or impulsive attitude towards the latter. This attitude, as I have furthermore held forth, induces and enforces his belief in the reality of the themes concerned. But, as the child grows and his life experience expands—his individual memory-continuum becoming richer—he will begin to view the themes of his naïve beliefs not merely in centripetal relation to himself, but also in centrifugal relation to other things he knows. And the latter consideration, I suggest, will lead him gradually and unavoidably to doubt the reality of fairy-land and the "big bad wolf."

The heroine of Lewis Carroll's marvelous little book *Alice's Adventures in Wonderland* is exactly in the age when the consideration of the relation of things to things has begun to compete with the appreciation of things merely in their ego-reference. Recall the following episode from the very onset of Alice's adventures:

> . . . a White Rabbit with pink eyes ran close by her.
>
> There was nothing so *very* remarkable in that; nor did Alice think it so *very* much out of the way to hear the Rabbit say to itself "Oh dear! Oh dear! I shall be too late!" (when she thought it over afterwards it occurred to her that she ought to have wondered at this, but at the time it all seemed quite natural); but, when the Rabbit actually *took a watch out of its waistcoat-pocket,* and looked at it, and then hurried on, Alice started to her feet, for it flashed across her mind that she had never before seen a rabbit with either a waistcoat-pocket, or a watch to take out of it. . . .[6]

In the episode quoted, it is apparent that the unreality of the event which starts Alice upon her whole adventure, is the result of her viewing the former not with mere ego-reference, but centrifugally in the light of other events. It is from this aspect that the rabbit's actions come to appear queer to her,

[6] *Alice's Adventures in Wonderland,* p. 10.

and, accordingly, to instigate her pursuit of the rabbit, a pursuit that has a whole series of remarkable sequellae. Alice, at the time concerned, has evidently passed the stage when, as Stern describes it, "the child . . . is a creature of the moment," and as the result of its "concentration on the present . . . is free from . . . the desire to bring its perceptions in connection with the past and the future, and thus to test their reality."[7]

Similarly, when Alice has eaten a piece of the magic cake and, as a consequence, has become elongated to the height of nine feet, it is the consideration of this strange mishap in its universal rather than in its ego-relation that urges her to the following reflections:

> . . . "Dear, dear! How queer everything is today! And yesterday things went on just as usual. I wonder if I've changed in the night? Let me think: *was* I the same when I got up this morning? I almost think I can remember feeling a little different. But if I'm not the same, the next question is 'Who in the world am I?' Ah, *that's* the great puzzle!" And she began thinking over all the children she knew that were of the same age as herself, to see if she could have been changed for any of them.[8]

In my monograph on *Schizophrenia* I have illustrated the gradually appearing inclination in children to view things, not only in centripetal relation to the self, but also in centrifugal relation to other things. I describe the reaction of three different children to a slot-machine from which, when a penny is inserted in the slot, a piece of chocolate falls out. It is a slot-machine on which, through a glass window, one can watch in action its levers, wheels, and other mechanical parts. Interesting from our point of view is to compare the attitudes of two of the children. One wants another penny to be put into the slot because he wishes a second piece of chocolate. It is evident that this child considers the machine merely in ego-relation as that which produces a piece of candy for him to devour. The other, on the other hand, wants a second penny put into the machine because he wishes to know how the machine did produce the chocolate. This child apparently con-

[7] *Psychology of Early Childhood,* p. 273.
[8] *Alice's Adventures in Wonderland,* pp. 23-24.

siders the machine not predominantly in ego-relation. Instead, he is interested in the relative working of the various parts of the latter as it can be watched through the glass window and in the relation of the appearance of the piece of chocolate to this particular process. We see, then, that in the two children there is a difference in the emphasis of interest, the interest of one of them being a pure ego-relation of the machine, while the interest of the other is the relation of part to part of the machine and in the relation of all its parts to the production of chocolate.[9]

The growing inclination to view things in their centrifugal relations rather than in their mere ego-relation leads the child naturally to perform comparison between things, this process leading to the discovery of differences and similarities between the latter. This, in turn, results in the child's learning that certain psychological objects and situations in a peculiar manner seem to endure and to withstand his effort of exerting impact or modification upon them, while others can be easily moulded according to his wishes. And the latter he finds to be the case with the imaginary themes of fairy-land, while other things, particularly those which he sees and touches, seem to enforce upon him repeatedly their own specific and relatively stable nature, maintaining from time to time a certain unchangeable self-identity. Then, there is a third group of things which, even when he himself is passive, seem to exert impact upon him spontaneously. All these things, in comparison, gradually come to be distinguished from the purely imaginary themes, and, finally, probably by analogy with the self, which is to the child the most immediately known and the most enduringly self-identical of all things, they come to represent units of external reality.

There are reasons to believe that naïvely even the imagined objects, to some children, have the earmarks of being spatially present, the childhood phenomenon of *imaginary companions* being an instance of such primitive confusion of perception and imagination. Jersild quotes an interesting case of imaginary companionship which well illustrates the vividness of the phenomenon and the depth of the confusion involved: "A

[9] *Schizophrenia,* pp. 56-57.

girl of four screamed a warning to her father as he was in the act of sitting down on a sofa; when questioned, she reported that her imaginary playmate (a monkey) was having a sick spell and had just soiled the cushion on which her father was about to sit."[10] Imaginary companionship is apparently not an unusual childhood phenomenon. Jersild, together with Markey, has made a study of its frequency among children, aged five to twelve. Of four hundred subjects asked to describe their daydreams and imaginary companions, about one-third depicted creatures "that seemed to have fairly definite and permanent characteristics."[11] The little child's confusion of imagination and perception probably becomes even more conspicuous in the cases when the imagined objects are, so to speak, subsidized by an inadequate corporeal symbol, as when a block of wood means to the child a ship, or an empty matchbox a knight's castle. For, no doubt, William James is correct when he writes: "In children's minds, fancies and realities live side by side. But however lively their fancies may be, they still gain help from association with reality. The imaginative child identifies its *dramatis personae* with some doll or other material object, and this evidently solidifies belief, little as it may resemble what it is held to stand for. A thing not too interesting by its own real qualities generally does the best service here. The most useful doll I ever saw was a large cucumber in the hands of a little Amazonian-Indian girl; she nursed it and washed it and rocked it to sleep in a hammock, and talked to it all day long—there was no part in life which the cucumber did not play."[12]

The first phase in the sifting out of the imagined objects from the realities probably consists in the distinguishing of the actually present and the absent, but imagined, psychological object, this process being the simplest outcome of the resistance test. But, even with regard to this most necessary of all distinctions, the development of discrimination—particularly of the inadequately subsidized imaginary and the actually perceived objects—is a slow process; and, as Stern has so strongly emphasized, between belief and playful but conscious make-

[10] *Child Psychology*, p. 271. [11] *Ibid.*, pp. 274-275.
[12] *Principles of Psychology*, II, 303-304.

believe, there are various levels of reality upon which children view things, and between which they rapidly oscillate from moment to moment in their naïve apprehension of that stage of activity called their world. To quote: ". . . the child begins fairly early to feel dimly that other stern idea of reality possessed by us adults . . . the distinction between objective and subjective begins to struggle into consciousness. But even this is a slow process, and passes through the strangest intermediate states. Sometimes there is abrupt alternation between absorption in the illusion and superiority to it, sometimes the child intentionally turns away from everything that might destroy the illusion. Then, again, there are psychic conditions when the child is conscious of this discord, and hovers between the opposite poles of taking reality seriously and playing with his percepts. . . . We find this alternation of confidence and doubt shown by the child, not only in its self-illusions, but in its attitude to those offered to it from without, viz. in fairy tales, Santa Claus, and the various fantasy-games."[13] Stern quotes several instances of his own children's activity on various levels of reality. Thus he writes concerning Hilde, aged two years and two months:

It is not always possible to decide where the child's consciousness of the self-deception in her games begins or ends. When Hilde puts her dolly and toy animals to bed, feeds them, washes them—in short, treats them as she herself is treated, she may be conscious or unconscious of self-deception. The child expects no answer when she directly addresses her doll or stuffed dog, etc. But conscious playful self-deception is certainly shown in another stage now reached by Hilde. This morning she missed her little chair; first she asks: *Where is my little chair, then?* Then she consoles herself with: *Look for little chair on the floor,* and, sure enough, down she stoops on to the carpet, looks about as if finding a pin, and at last says decidedly: *No, it isn't there.* So comical the whole proceeding was![14]

Another note on Hilde, now aged four years and seven months, indicating that play-illusion can still move her to tears:

[13] *Psychology of Early Childhood,* p. 274.
[14] *Ibid.,* p. 275.

One evening—the bedroom has already been darkened—she suddenly calls out quite anxiously to know if one or other of the dolls has been tucked up in the thick blanket; she is evidently afraid that, if not, her doll will catch cold in the raw November weather. And when we try to induce her to be quiet, her tears flow; anxiety for her little sister's health could scarcely be more genuine than this care of her dolls. Would this be possible if she had a conscious mental picture of the fact that the treasured doll was only a piece of leather stuffed with chaff?[15]

And a third note:

Our eldest daughter, ten years later, still remembered her strangely mingled feelings when one of her elders chased her in fun round the table, yapping like some animal. There was always a touch of real fear in her knowledge that it was only pretence, and, strangely enough, this consciousness of mixed feelings persisted when similar jokes were played upon the same child at a much later age.[16]

With the advent—however gradual—of the resisting, the not so easily controllable realities, the themes of fairy-land begin to retreat from their prominent place in the sphere of experience of the child; his intensive, impulsive preoccupation with them begins to abate. Such development is fairly well on the way—although not completed—in the case of Alice at the time when the rabbit's conduct appears to her strange. The object *rabbit,* by experience, has already become to her the seat of certain enduring unchangeable properties, deviations from which makes for an "unreal" rabbit.

The general rôle and function in matured belief-engenderment of the resistance test of reality, the general nature of which, in my view, is ultimately conditioned by the appreciation of object-object relations and by the comparison of present with present and of present with past, is described briefly and to the point by McDougall:

. . . what we really mean, when we assert the reality of a thing, is that the thing has a nature of its own which reveals itself in the resistance it offers when we strive to change it. . . .

. . . the most complete proof of the reality of any object is the resistance offered by it to our bodily effort to move or change

[15] *Ibid.,* p. 276.

[16] *Ibid.,* p. 276.

it. Solidity is overwhelming evidence of reality. There is only one evidence still more convincing; and that is the exertion by the object of active pressure against our efforts. . . .

Belief in reality of other things is determined by a projection of one's own reality; and that reality is at bottom one's power of striving, of exerting an effort, of persisting toward a goal. . . .

One's own self is believed in as real, because we desire and strive and achieve, or fail; any other thing is believed to be real in so far as it seems to us to be like ourselves, that is to say, in so far as it seems to have a determinate nature of its own which resists us; and all our beliefs are dependent upon such beliefs in realities. The universal formula of belief is—this is X. And the word "is" means real existence, something of determinate nature which is independent of our desire and will, because it resists. . . .[17]

The important rational test of reality which we have called the "resistance test" is applied not only on the plane of perception and simple imagination where it achieves the discrimination between that which is merely fancied and that which is spatially present; but, in fact, the matured human adult, as McDougall has pointed out, applies the resistance test to all levels of mental activity, even to the very highest one of reasoning:

. . . In reproductive imagination, or remembering, if we are interested in the question of the reality of that which we remember, the truth of our recollection, we believe it in so far as our imagination of the past is stable and offers resistance to our effort to change it. Consider how your belief in the reality of some past action of yours is founded, if, say in a court of law, your testimony to it is required and challenged. The question is raised—Did you, or did you not, lock the door on leaving your apartment? The ground of your belief in the reality of your locking the door is not the vividness with which you can picture yourself doing it; it is rather the fact that, as you depict your exit on that occasion, the imagination of the act hangs obstinately together with the rest of the sequence of behaviour which you depict. If you attempt to excise it from the sequence, you remain aware of a gap which you have made. This . . . is . . . due to the fact that memory works according to its own law, reproducing the past events in the order of their occurrence, a law or tendency which we can only partially control, which offers resistance to our efforts.

[17] *Outline of Psychology,* pp. 372-375.

On the highest plane of mental life, that of reasoning, the same law of belief holds good. When we reason from believed premises to a conclusion, our belief in the conclusion derives from our belief in the premises; the former belief arises because in reasoning the mind works according to laws of its own, and resists in some degree our effort to avoid the conclusion. . . .[18]

The mental activity which manifests itself in thinking things in their centrifugal relation to other things rather than in centripetal relation to the self and which, as it gradually develops in the little child, corrects and eradicates his naïve, emotionally induced beliefs, I have dealt with provisionally in my monograph on *Schizophrenia*:

. . . This mental function . . . is essentially the one through which the real is distinguished and discriminated from the unreal, the objective from the fanciful and dreamed. It is perhaps difficult to analyse this function . . . yet we cannot doubt its actuality, nor can we doubt its paramount importance. Let us provisionally call it the reality-function or for the sake of brevity the R-function.

It is obvious that this R-function must be an incorporated part in any well-adjusted mental activity, must be part of any successfully working simple or complex sentiment, and its rôle in adjustment, to state the matter again, is to discriminate between the real and the unreal. It may be likened to a Cerberus with a thousand heads and thousands of eyes which are continually awake to notify as to the proper course of activity in a highly complicated world. . . .

[18] *Ibid.*, p. 374.

Before McDougall, G. F. Stout—in a general but most emphatic manner—has commented upon the rôle of resistance towards our mental effort in the engenderment of belief: "Whenever belief or judgment exists, it involves the control of our activity as thinking beings by conditions which are fixed for us and not by us. In so far as we are left free to think otherwise than we do think, belief is absent; in so far as it is present, the range of subjective selection is confined within definite limits. . . . Our inability to attain ends otherwise than through certain means, constitutes a restriction of mental activity within definite channels. . . . The steps of process issuing in a given result are fixed independently of us. In devising means to an end, therefore, we are not free to make what mental combinations we will. Our thinking, to be effective, cannot be free. We can no more attain our ends without submitting to control independent of our wish or will, than we can walk independently of the resistance of the ground on which we tread" (*Analytic Psychology*, II, 239).

The R-function . . . is incorporated in the majority of higher forms of volitional expression; it is, in fact, the very component of will which is responsible for our critical considerations; it normally exercises the check upon too abundant otherwise determined wishful judgment and is thus the very agent which prevents the establishment of merely subjectively moulded beliefs. . . .[19]

The reality-function or, as we may better call it, the rational or objective function of human mind is the second great agent engendering belief in man. It begins to manifest itself noticeably in late infancy, but the time of its appearance in different children may vary considerably. Throughout adolescence and adulthood it is a powerful determinant of the growth of individual intellect (system of beliefs). But it is not omnipotent in this respect. It conflicts, more or less, throughout life with the primitive process of belief-engenderment, the process of emotional induction of belief, and many times it has to yield in this conflict. In other words, man, in certain respects and under certain circumstances, continues to build up belief in accordance with the primitive principle, notably upon the emotional consideration of things and events, or upon the consideration of the latter in mere ego-relation. Wish-determined belief formation forthwith persists. The realm within which the rational function expresses itself perhaps most purely, is the realm of scientific thought and scientific belief, while the realm within which, broadly speaking, emotional belief-engenderment remains the ruling principle, is the realm of religious thought.

In the present chapter I have been treating the advent and decline of belief in fairy-land as observed in little children. From my survey I have attempted to extract a preliminary description and interpretation of the way in which this belief is formed, and the way in which corrective belief is later engendered. The two processes of belief-engenderment manifested in the ascent and decline of fairy-land as a reality I hold to be the two important prototypes of all belief-engenderment in man. One of these processes can be properly called emotional, the other rational. Neither of them so far has been explained, and each one shall be dealt with theoretically in

[19] *Schizophrenia,* pp. 54-56.

later chapters. Knowledge of the emotional principle of belief-engenderment is common property of all educated laymen, at least as far as its most general formulation goes. Fiction and poetry are full of statements to the effect that *we believe what we strongly desire.* The same may be said with equal right about the rational principle. Most men will acknowledge that, through rational thinking or reasoning, they might arrive at propositions which they believe to be true. I have suggested that the preliminary descriptive analysis of the two processes of belief-engenderment reveals that each is conditioned by a peculiar mode of consideration of things and relations. Thus the emotional induction of belief seems to be rooted in the apprehension of things in paramount ego-relation, while the rational induction of belief appears to be the outcome of a consideration of things, not in paramount ego-relation, but, rather, in mutual relation to each other and to the universe at large. I have also suggested that the former mode of consideration of things prevails during the period of infancy when the child believes in the illusion of fairy-land—indeed, conditions such belief; while a switching of emphasis from the former to the latter mode of consideration characterizes and conditions, on the one hand, the appearance in later infancy of doubt as to the reality of fairy-land, on the other hand, the formation of specific, more mature, corrective beliefs.

It is my intention to follow, in the next brief chapter, another ascent and decline, the ascent and decline of hero-worship in later childhood, more especially the appearance and correction of immature beliefs arising in connection with such hero-worship. I am confident in being able to show that in the latter processes the two great principles of belief-engenderment—the emotional and the rational, respectively—are again manifest; in other words, that the appearance of the immature beliefs arise from a consideration of things in paramount ego-relation, the correction of these beliefs from a consideration of things in their universal relations.

CHAPTER II

The Casting and the Clasm of the Hero-Ikons

One day my little boy said to me
"Mummy, d'you know what I'd like to be
When I grow up?"—of course I knew
I could never guess, so he said, "a poet, like you,
Or a lion-tamer, or an acrobat,—
I haven't decided which." Now what do you think of that!

Lesley McDougall Brown, *The Pond and Other Poems:* When I Grow up.

IN THE PREVIOUS chapter, in a non-technical manner, I have tried to illuminate the mental processes through which belief is engendered and abandoned by describing the rise and decline in the little infant of belief in fairy-land. In the present chapter, I shall endeavor to illustrate the same processes as they reflect themselves in another psychological phenomenon, namely, in infant hero-worship; or, rather, I shall try to demonstrate that these processes are manifested in the appearance and disappearance of the child's admiration of a certain hero.

Admiration of fellow-men is often an important agent in character-formation, whether moral or immoral, because the admired individual is likely to represent that with which the admirer ardently wishes to mould himself into resemblance. In view of this peculiar directive power of admiration, it is of the utmost importance for any young person to choose the proper hero. For there is a definitely degrading, just as there is a definitely elevating, kind of hero-choice, the former being fairly illustrated, for instance, by admiration of Baudelaire, the latter, for instance, by admiration of Abraham Lincoln.

Simple admiration has been described by McDougall as a blend, merely, of wonder and negative self-feeling. True hero-worship is more complex. For in hero-worship—at any rate in that kind which is of importance in education—there is involved a stirring of the self-regarding sentiment, an urgent desire of being or becoming like the hero. The latter—in true

hero-worship—stands for the ideal towards which the total will of the worshipper converges.

Admiration for a person, particularly in childhood and early youth, may be induced to a degree by suggestion on the part of some authoritative elder. A father, for example, may say to his ten-year-old boy: "Look, son, there is Reverend B.; he is a great and good man; try to be like him; prepare yourself to follow in his footsteps and become a minister of God." Obedience to the paternal authority may, in such instance, lay the seed of admiration for B. But, without a spontaneous impulsive response of esteem for the suggested hero, the latter will never become an enduring guide of the child's or the youngster's aspirations. For there is always an intimate relation between one's hero at a certain time of life and one's aspiration or ideal at the same time. This relation is not denotable simply by the proposition that the hero induces the aspiration, because, very likely, there have been dispositions in the admirer which furthered a particular choice of hero when the latter first appeared—dispositions, however, which perhaps would have remained dormant without the hero's influence. Once in function, the hero-admiration and the aspiration or ideal mutually reinforce each other.

Admiration of a hero may also be undermined and finally broken, because some elder expresses opinions hostile to the greatness and glory of the former. Thus a young boy may have formed a profound admiration for Abraham Lincoln. One day his older brother, who is a sophisticated student of history at one of the leading universities in the country, comes home and says to him: "Professor N., the foremost authority on American history, has shown with absolute certainty that Lincoln's name would never have become so glorified in the annals of our Nation if Lincoln had not been shot just at the time he was." This statement, painful at first to the younger brother, may considerably weaken his belief in Lincoln's eminence and gradually reduce his admiration for the latter. But, also, with regard to the breaking down of admiration, there is a spontaneous process which is, perhaps, more important than the acceptance of suggestions upon which the hero falls. I shall attempt to show that this process is exactly the rational

consideration of the hero in his universal relation, that is, the same process which was responsible for the decline of belief in fairy-land and the "big bad wolf."

Admiration coincides with a set of very definite beliefs, or believed propositions; in fact, admiration can be described in the terms of the latter. The two prominent beliefs characteristic of any variety of hero-admiration are the following: (1) He (the admired person) is great and wonderful. (2) How great and wonderful it would be to resemble him. Admiration is an emotional or impulsive attitude towards the hero, and, at any rate, in the primitive modes of hero-admiration the beliefs stated are primarily emotionally determined; that is, they are based essentially upon a consideration of the hero in his centripetal relation to the self, his existence and his deeds being of intensive ego-concern.

It is true that in admiration there is incorporated a desire to know, to learn about the hero. Such desire would be a rational urge if it aimed unbiasedly at establishing objective relations between the hero and other affairs in the world, but in ardent admiration the desire to know is not objective; indeed, it is instead highly biased. What the ardent admirer strives for is merely such further knowledge about the hero that can serve as fuel for his admiration. Perhaps, the following consideration is pertinent in this connection. Youth is the age of optimism. The youthful admirer rarely counts with the possibility of failure in reaching resemblance to his hero at some future time. Thus the mere election of the latter as the object of admiration stands already subjectively for a certain measure of accomplished attainment of such resemblance. And so it occurs that the contemplation of the hero, the hearing and learning about him, comes to serve, indeed, as an imaginary gratification of the admirer's own master-ambition; it becomes, in fact, a mode of self-caressing. If this be true, as I think it is, it implies a tendency of hero-admiration to blend with self-admiration—a state of affairs which throws a new light upon the ego-concern of the hero.

The above proposition is, perhaps, negatively supported by the fact that actual deeds of the admired person, which are slightly or severely degrading to the latter, are not compre-

hended or recognized by the admirer, or, if transitorily and vaguely comprehended, they are turned away from or defended in a superficial though eager manner. As a matter of fact, in the defense of his hero the youthful admirer manifests the same kind of self-deception, displays the same effort to manipulate evidence in favor of the latter, as does any man who is reluctant to face his own inferiority or degradation, while his ardor in defence is sufficient to suggest without doubt that, at the time, he completely identifies himself with the object of his admiration. In both instances a pseudo-rational process is in evidence which is the very caricature of true objective consideration of things in their centrifugal universal relation. We conclude, then, that selected knowledge of the hero serves the imaginary realization of some desired ego-object relation in which the hero symbolizes the object or goal of a wish springing from the youthful self-regarding sentiment of the admirer. Thus the desire for such selected knowledge is not very unlike the desire of the hungry man who wishes to know where food is to be found. Indeed, the hungry man is not concerned with, not disinterestedly interested in—forgive the expression—the relation of a certain food to other foods, or of food at large to the physical welfare of mankind, which latter interests would be more truly rational.

As soon as a truly rational consideration of object-object relations matures and becomes strong in the naïve admirer, as will be the case in most instances, the rational process assimilates the pseudo-rational constituent of admiration, and this, as we shall see, leads to the fall of the hero.

I shall now point to a feature of admiration which, in a way, is parallel to a phenomenon discussed in the previous chapter, notably the inclination of the little child who is emotionally stirred by the stories of fairy-land, to elaborate imaginatively these stories in a creative manner. Both phenomena are psychologically akin to the primitive man's tendency to elaborate a mythology and a demonology around things which he enduringly desires or enduringly fears.

The naïve admiration, characteristic of childhood and often even of adolescence, is based on a one-sided consideration of

the hero. A little boy might admire the pastry-cook because he can make such good pies; another boy, a little older, might admire an older schoolmate because he can defeat all the other boys in fair fight, and so forth. In other words, it is a single characteristic, or a few characteristics of the hero upon which the admiration is founded. But, as a secondary effect of the latter, there occurs a purely imaginary extension of the virtues of the hero. Admirable in one respect, he must be great in all. This emotionally determined inference on the part of the youthful admirer is another expression of the same bias which prompted the selection of knowledge concerning the hero and which we have just been discussing. Thus the little child who admires the pastry-cook is certain that the latter must be an excellent motor-car driver, that he must be wealthy, and that he must be a socially elevated person. All these beliefs are urged by the great admiration. Based on a very narrow objective observation, the youthful admiration magnifies its object tremendously by irrational inference. The glory of the hero grows with the number of virtues attributed to him by the youthful admirer, whose admiration is continually nurtured by the projection of these virtues into the hero.

But it is also due to this imaginary expansion of the virtues of the hero that the latter some day is bound to fall, and the cause of his fall, just as the cause of the decline of fairy-land, I suggest, is the growing inclination in the child and in the youth to rational consideration of things and events, or to consideration of the latter in their centrifugal object-object relation rather than in dominant centripetal ego-relation. The rational consideration of the hero will reveal—sooner or later—that the virtues projected upon him by emotionally turgid imagination are actually not his possession. This discovery is sometimes painful, just as the doubt as to the reality of Santa Claus was painful to the little girl introduced in the previous chapter.

The little boy, let us call him Ben, who makes mud pies in order to resemble the admired pastry-cook, one day overhears one man say to another about the latter: "He can't drive a car, he is too nervous." Ben does not exactly know what it is to

be nervous, but from the sneer of contempt upon the face of the speaker he infers that it cannot be creditable. What he has heard hurts him a little, and he tries to forget it; he even tries to convince himself that after all it is not so important to drive a car—this being an emotionally induced attempt of self-deception. But another voice whispers: "Surely—though, I would like to be a good pastry-cook *and a good driver.*" Some time later, Ben meets the pastry-cook's boy Fritz, who is of his own age. He has noticed before that Fritz is not quite as well dressed as he is himself, but today to his embarrassment he discovers that the latter has a big patch on his trousers. His reflection is that the pastry-cook can't be so wealthy when he lets Fritz wear patched trousers. This again hurts him a little, for surely he had thought that the admired pastry-cook must have lots of money. Later he has a third puzzling experience. It is a few days before his father is going to give a dinner. He decides to try an experiment which he has been thinking of for some time. He asks his mother whether the pastry-cook can be invited. His mother does not answer but turns smilingly to his dad and says: "John, what do you think his Excellency Mr. X., would say if he had to take Mrs. Jones to the table." And his dad laughs openly and heartily. Ben is baffled. "Why cannot the pastry-cook come to Dad's dinner where all the nice diplomats come? Surely, I thought he was a great person, but perhaps there may be something wrong with him." Each time a new disappointing experience like those described occurs, the others insistingly come back to Ben's mind; and there are an addition and a comparison of A, and B, and C. The latter represents distinctly a consideration of object-object relations, a consideration of the hero, the pastry-cook, in his centrifugal setting rather than in his ego-concern. Gradually this rational consideration undermines the admiration for the pastry-cook, and, finally, the latter figuratively tumbles over into the dust, a broken hero-ikon.

King Charles XII of Sweden conquered in war more than half of Europe; lost it again and more. He seems to have been one whose major interest was warfare and battle. He knew no personal fear, exposing himself continually to danger

as he led his army into open fight. He was therefore the idol of his soldiers. He is also at present the idol of all the schoolboys in Sweden, who admire him and impersonate him in the fights they stage on the playground. What these boys primarily admire is the *courageous king,* but their imagination furnishes the latter with all other admirable virtues. This single trait, however, is the basis of the admiration which makes his person to them an object of intensive ego-concern. In any mentally sound adult Swede, the boyhood admiration for this king vanishes. And how? By considerations such as the following: King Charles's reckless courage interfered with his strategy. In his drafting of men for his wars he neglected the welfare of his people. He finally brought complete disaster upon his country. He caused the death of about half its population. Through inflation he ruined it economically. He was a sexual psychopath to such a degree that later historians have wondered whether he may not have been a woman in man's disguise.

All such reflections are offshoots of consideration in centrifugal direction. They represent the viewing of the king in his universal relations rather than in the narrow ego-relation of the impulsive attitude of admiration; or, in other words, they represent the rational consideration of the king.

Just as to the little child fairy-land declines as reality in the light of such rational consideration, and just as to little Ben the pastry-cook loses his glamour in such a light, the heroism of King Charles vanishes when he is looked upon objectively, in his broad centrifugal relation to contemporary circumstances at large.

In a similar way most of the heroes of childhood and early youth stumble, and, coincidingly, the ardent beliefs centered around them give place to doubts or negative beliefs—Buffalo Bill, Joe (in *Little Women*), Huckleberry Finn, the best fighter among the schoolmates, the teacher of fine arts in college, or whosoever.

In adulthood admiration of fellow-men becomes less ardent. Yet many adults set before them, as an example to follow, admired individuals of great merit and accomplishment.

But these heroes are not chosen upon a one-sided consideration, or upon strong emotional appeal of a few single deeds or traits of theirs. Before they become objects of admiration they have passed, to a considerable extent, the test of the rational consideration. Thus, from the beginning, they appear creditable from many, perhaps all, points of view. Such heroes may remain, to a man, admired guides of aspiration throughout life.

CHAPTER III

Suggestion as the Inductor of Belief

> Uncursed by doubt our earliest creed we take;
> We love the precepts for the teacher's sake.
>
> O. W. Holmes, *A Rhymed Lesson*, 1. 191.

IN DISCUSSING the little child's belief in fairy-land and in the "big bad wolf" I suggested that one factor in the engenderment of these beliefs might be submission to the authority of the story-teller. I also ascribed a minor rôle to such submission in the initiation of hero-admiration. The stories of fairy-land and of the "big bad wolf" are told to the child by the parents, those two people who represent to him eminent authority, and whom he is accustomed to obey in most situations of life. The parents may also tell the child that Mr. X. is a great man whose example should be followed with admiration or reverence. Submission to the authority of the parent may then contribute to the formation of the beliefs concerned. But, in my discussion of the childhood beliefs, I have also stressed that pure submission to authority is probably rarely sufficient to engender enduring belief. The proposition primarily believed due to authoritative submission, in order to grow into an enduring object of conviction, has to become the psychological object of other enduring impulsive or emotional attitudes on the part of the child. If not, the child will fail to continue contemplating and elaborating the proposition in the absence of the person who originally laid it before him.

The parallel principle, I think, applies to all phases in the education of the child. The plain command: Do not! or Do! with its dominating intonation and eventually accompanying dominating gesture, will not suffice to effect an enduring correction or guidance of the child's conduct. The route of activity, suggested to the child to be followed, has to be given meaning by the persistent appeal to impulses other than the sheer submission to authority. In an earlier work I have

expressed the view that, in all endeavors to build up truly social or altruistic character in a child, the educator, in order to succeed, is bound to appeal to the pupil's protective, instinctive impulse, the latter being the only truly altruistic impulse with which man is natively endowed.[1] For instance, a little child has thrown the paper in the wastebasket all about the room. The mother might say in a domineering and severe manner, "Pick them up! and never do that again!" This would be plain appeal to submission. It may be effective, but it will not, I insist, be as effective as in the case when, in addition to submissive appeal, appeal to the protective impulse of the child is successfully achieved. The latter result may ensue if the mother says, "Don't do this again, for then mother will have to pick up all the paper and that will make mother very tired." If the latter kind of approach to the child succeeds in calling out his protective impulse, I suggest that a more effective and enduring correction of the child's conduct will ensue.

In my earlier work, I urged the joint appeal to submission and to the protective impulse in argument against the utilization of appeal to egotistic impulses in character building. It is possible to correct a child through appeal to his selfish desires, as when you promise the child a toy if he is obedient—an appeal to the acquisitive impulse, or when you promise him a lollypop if he is good—an appeal to a derivative of the food-seeking impulse. Although such educational method—or lack of method—just as well as the call upon the protective impulse, illustrates the reinforcement of the corrective effect desired by a multiple emotional appeal, I hold that truly altruistic character can be built only by successful invocation of the latter impulse. Any correction of the child by appeal to his egotism represents a loss in one direction of what you gain in another.[2]

[1] *The Manic-Depressive Psychosis,* chap. ii.

[2] McDougall, I believe, explicitly voices his recognition of the necessity of a multiple emotional appeal in that important part of character-education which consists in the induction of moral sentiments in the child. For he writes: "The isolated individual could never acquire more than the most rudimentary moral sentiments. In the first place, he needs the aid of language to enable him to think of the various moral qualities as such. And as, with the aid of language, he learns to think of these abstract objects, he almost inevitably begins to build up sentiments about them:

We see, then, that in the moulding of the child's mind, whether you merely desire to engender a belief, or you wish to lay down a route of conduct to be followed, appeal to authoritative submission alone is insufficient to create an enduring effect.

I have repeatedly stressed the view that a proposition made to a little child attains its meaning due to the impulses which are evoked in connection with the proposition. In other words, before the activation of some impulses, the proposition is meaningless or nearly so. I have implied that, in the little child, these impulses are called up not by the wording of the proposition, but by the emotional intonation of the voice in expressing the latter, and by accompanying emotional gestures on the part of the speaker. These emotional expositions directly call out by way of primitive passive sympathy the impulses which give to the propositions their meaning. If this is a true statement of fact, it implies a state of affairs which is eminently pertinent to my present theorem. For it would indicate that the little child who is urged to attend to the parental story-teller merely by submission to the latter's authority, would gain very little, if any, meaning from the story, the very comprehension of the content of the story requiring the evocation in the child of a range of impulses other than submission. As I have just suggested, these impulses

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for the traditional emotional attitudes toward these objects are generally expressed by his fellows in words, in tone of voice, in gesture, or in other more energetic ways, whenever the objects are mentioned. . . . But, in the main, it is by sympathetic contagion and by suggestion from admired personalities that the child's moral sentiments are shaped. Admiration for a person is itself a sentiment, one which is apt to develop into love or reverence, though it does not necessarily do so. It is an habitual attitude of submission and of wonder in face of the admired person; and the child who has acquired this sentiment for an older person can hardly fail to share contagiously his emotional reactions to acts and qualities of character, and to accept his judgments upon them; and also he will in all probability desire to be, or to become, like the admired person, and therefore to cultivate, more or less deliberately, the moral as well as the physical attitudes of that person. As the child becomes acquainted with literature and art, his range and choice of models for admiration are vastly increased; and he may find his moral hero in some legendary or historical personality, in Socrates or Jesus, St. Francis of Assisi or Robert the Bruce, Washington or Lincoln or Florence Nightingale, Buffalo Bill or Jack Kelly. . ." (*Outline of Psychology,* pp. 435-436).

are most likely called into play by the emotional intonation of voice and by eventual emotional gesturing on the part of the story-teller while telling the tale. A story told in a completely unemotional and monotonous manner would probably have very little meaning to the child, while a sad story told with cheerful mannerism would mean to the child a funny story, and a humorous story told with the mannerism of grief or distress would mean to him a sad story. Instances like the latter I have actually observed on several occasions. It would seem that, just as language is supposed to originate in the primitive vocal expression of emotion, the little child's understanding of the meaning of verbally expressed affective psychological contents is conveyable only if the language of the affective proposition retains some of the qualities of the primitive emotional utterance of affect. For the latter qualities represent the only language which the child directly and naïvely comprehends in its proper significance, this comprehension being conveyed by virtue of the inborn tendency of primitive passive sympathy.

As, then, impulses other than submission inevitably have to be called out by a story-teller in order that the meaning of his tale may be comprehended by the child, we have by necessity the multiple emotional appeal which is likely to engender and enforce enduring belief.

Are there then no occasions of belief-engenderment determined purely by submission to authority? I think there are, but these are unusual and extraordinary instances, the very uniqueness of which indirectly bears out the argument I have here been defending. Purely hetero-suggested belief occurs as a hypnotic phenomenon.

Here is an elucidating experiment which I have performed with two different subjects, both young girls. Similar experiments are innumerable in the history and practice of hypnosis.

I hypnotized my subject and while she was in the hypnotic state I said to her: "I am going to wake you up. When you wake up you will thoroughly believe that the sun goes round the earth." Then, I added a suggestion in order to induce amnesia for the trance period in the post-hypnotic state, whereupon I awakened the subject. In the subsequent post-hypnotic

waking condition, I began to converse with her. I gradually guided the conversation toward a point where the question as to the relation between the sun and the earth could be properly raised. The subject voiced a profound conviction that the sun goes round the earth. "Well," I said, "that is not true; the astronomers have definitely proved that the earth goes round the sun." "Oh, no, that is wrong," was the eager and confident reply. No argument could shake this belief. To all rational attempts of correction, the same reply came back as a bouncing ball: "You are surely wrong, the sun goes round the earth." I, then, suddenly asked my subject what the shape of the moon is. She replied properly that the moon is round. "No," I said, "the moon is square." This proposition was very ardently rejected, particularly by one of my two subjects, who even indicated unequivocally that I was a fool to make such a statement.

The belief, successfully induced in my subjects, that the sun goes round the earth, I would interpret as a belief determined merely by submission to the operator of the hypnotic experiment. Such interpretation, it is true, is based upon a specific theory of suggestion and hypnosis, notably the theory propounded by William McDougall.

McDougall holds that all the hypnotic phenomena are explained by extreme suggestibility, suggestibility, in turn, being due to the supreme, uninhibited functioning of the instinct of self-submission.[3] I have never doubted the propriety of this hypothesis; in fact, I have considered it the only one that adequately accounts for the phenomena concerned. One of its great merits is that it emphasizes the continuity between hypnotic suggestion and successful waking persuasion, the yielding to persuasion being explained also by the powerful evocation of the self-submissive instinct. The recognition of the latter kinship, more than anything else, has eminently contributed to the clearing of the facts of hypnosis from the dim web of mystery in which they have been submerged too long.

It is of considerable significance that the belief that the sun goes round the earth, induced in my hypnotic subjects,

[3] *Outline of Abnormal Psychology,* chap. iv.

in all likelihood, would never be an enduring belief. That is, if I had not corrected it by renewed hypnotic procedure—as it is ethical to do—the false belief would not have persevered very long. It would soon have been spontaneously corrected and given up. This, it is true, is a matter that I do not know with certainty, as I did not try the experiment of leaving the false belief uncorrected. But, in view of the established wearing out of other hynotic effects, I can with conviction maintain my statement that the false belief of my hypnotic subject, left uncorrected, would not last for a long time.

I would refer the lack of endurance of the hypnotically induced belief to the fact that it is engendered by mere submission to authority. It lacks the additional motivation which I have held to be so essential in the building up of enduring convictions.

There is an interesting general observation which seems to indicate that, even in the hypnotic state when submission to the operator is the supreme impulse at work in the subject, there are narrow limits to the effects which can be produced. If a suggestion is given—be it to the most excellent hypnotic subject—which in some way is revolting to the latter, the suggestion remains ineffective and frequently breaks up the trance condition. Thus, when on one occasion a French psychologist, whose name I shall not mention, suggested to a young woman that she was to undress before his students, the subject immediately arose from the trance state and walked away indignantly. I have in my own notebook two interesting instances of analogous kind.

The first occurred when I was demonstrating hypnotic phenomena to a class of women nurses at the McLean Hospital Training School, Waverley, Mass. My subject, Miss S., was extremely susceptible to hypnotic influence; she had served me repeatedly in hypnotic research and had proved to be an excellent subject. Among the other nurses present at the demonstration was one Miss D. I had brought Miss S. into the hypnotic state, and, as I desired to show a so-called negative hallucination, I gave the following suggestion: "When you wake up you will find in this room only yourself, Miss D., and me." Immediately these words had been spoken, Miss S.

spontaneously awakened from the trance state and could not be brought back into the latter. I was much surprised at the time and could not offer any explanation of the phenomenon. Its cause, however, became evident to me later during the day. For, some hours after the session, Miss D. called at my office and asked me the following question: "Do you think, Doctor L., that Miss S.'s breaking the hypnotic state, when you suggested to her that she would be alone in the room with you and me, might be due to the fact that she hates me?" Strange to say, one hour later, Miss S. herself called and asked me essentially the same question: "Do you think, Doctor L., that the reason why I woke up when you suggested that I would be alone in the room with you and Miss D., might be because I hate her?" I need not say that a man was the cause of the hostility between the two young girls, and that the case was one of jealousy. The interesting part—and I have not the slightest doubt as to the validity of this interpretation—is that the suggestion to Miss S. that she would be alone with Miss D. and me was probably repulsive to her because of her hatred towards the former—this repulsion, evidently, being sufficient to interfere with the attitude of submission, by which the effectiveness of my suggestion would have been conditioned.

The second example I have in mind is the case of a middle-aged woman whom I was trying out as a hypnotic subject for one of the late Dr. Morton Prince's demonstrations at Harvard University. She proved to be quite susceptible to my influence. During the course of my procedure, I wanted to find out if I was able to induce post-hypnotic amnesia in my subject. For this purpose, I asked her a few questions during the trance state merely in order to have some topic of conversation to refer to later when testing the amount of forgetting. One of my questions was: "Who was the first president of the United States?" To my surprise and embarrassment, this question immediately broke the trance condition. The subject woke up and could not be brought back again into the hypnotic state. The solution of this peculiar incident was brought to me the next day. My assistant, in some way, had succeeded in extracting from the subject the confession that, at the moment I had asked my question, she could not think

who America's first president was, this having embarrassed her very much. Undoubtedly, this reaction of embarrassment had conflicted with her submission and produced the effect of breaking the trance-state.

If the power of submission in the hypnotic state, when the latter impulse is supposed to function supremely, is thus limited, we may reasonably infer that its rôle in waking life cannot be of any striking significance except, perhaps, when it co-operates with other impulses.

Against my proposition that, on all age-levels, submission to authority plays only a minor rôle in belief-engenderment, might be brought the fact that the major portion of knowledge possessed by the educated human adult is acquired through reading and submission to the statements made by various authoritative writers. I would defend my position against this argument by pointing out that, although there are to be found simple-minded fools who believe that everything printed is true, "dull, superstitious readers . . . who pin their easy faith on critic's sleeve, and knowing nothing, every thing believe,"[4] the enlightened reader submits the propositions even of very prominent writers to the rational test. That is, he himself relates these propositions to other states of affairs in the universe, or he accepts a proposition laid down in print, in so far as the author has related his expressed view to a larger mass of knowledge, the acceptance on such basis being not so much urged by submission to authority, as rather by rational process aided and guided by a writer. Even with regard to plainly descriptive works the same is true. If a traveler depicts in an article a little island in the Pacific Ocean, discovered and first visited by him, his description, to the enlightened reader, induces belief in proportion to the measure in which the described fragment of the earth is of significance for and can be integrated into a universal ensemble. The same is true of an isolated piece of very special research in psychology or any other branch of science. Its result becomes an object of belief, not so much because it has been demonstrated in its isolation in the laboratory, but rather in so far as it is integrable into the totality of knowledge or in so far as it modi-

[4] Charles Churchill, *The Apology,* I. 99.

fies world-views in a broad sense. A fact, psychologically, is never an isolated existent, at least not to the mind of the human adult of creditable intellect; for in the well-integrated human mind, all beliefs, in some measure, condition each other, or, as G. F. Stout expresses the matter, "The whole body of beliefs forms a system of interdependent parts; it is the coherence of the system as a whole which constitutes the possibility of its component elements. . . ."[5]

As an indirect support for the rôle of the rational process in the acceptance with belief of an isolated statement of "fact," I wish to call to attention a caricature of man: a boring kind of skeptic. I refer to the man who rejects all novel propositions, not because the latter cannot be integrated into a larger mass of knowledge, but rather because he himself is intellectually too inferior either to perform this integration or to grasp the guide you may offer him in this respect. This skeptic is frequently quite irritating because, by self-deception, he has succeeded in making his intellectual limitation subjectively a virtue. Thus he will be inclined to display conceit and pride about his critical attitude towards things, while, in reality, his attitude is anything but the expression of sound scientific caution. It is upon him and his brethren one might properly quote Scott: "We talk of a credulous vulgar without always recollecting that there is a vulgar incredulity, which . . . finds it easier to doubt than to examine";[6] or, Quintillian: *"Damnant quod non intelligunt."*[7]

[5] *Analytic Psychology,* II, 237.
[6] *Fair Maid of Perth,* Introduction.
[7] *De Institutione Oratoria,* Bk. X, chap. i, sec. 26.

CHAPTER IV

The Emotional Induction of Belief

Libenter homines id quod volunt credunt.
Caesar, *De Bello Gallico,* Bk. III, Sec. 18.

THE OBJECTS we perceive are naïvely apprehended as realities, as *things existing out there in space;* in other words, they are objects of belief. Various writers—in the terms of their different general psychologies—have expressed their affirmation of this proposition as a fundamental psychological ultimate. Thus William James states that everything which excites sensation is comprehended as real; and, as the excitation of emotion to him is merely a special case of sensory excitation, the reality of the objects stirring emotional reaction and interest is also sensationally explained by this general principle.[1] In his manner, James Ward writes to the same effect: ". . . If dazzled by the sun I say 'It is light,' the psychological necessity accompanying this assertion, though it is confined to a single instance, is more absolute and immediate than that which is present when I say 'Unsupported bodies fall,' a proposition which I and my ancestors before me have verified innumerable times and never found to fail. . . . The certainty of sense is fundamental, whilst the certainty of thought, as concerned with objects of higher order, presupposes sensory *fundamenta.* . . . Here with the subject confronted and determined by the immediately given or presented objective—here at the very outset of experience, before association begins—we have that complete state of mind in which all the *factors* of belief are found in Decartes' *Cogito* filled out: I am and It is. Here, then, where as yet reflection and doubt are alike impossible, we have the *fons et origo* of certainty. . . . 'Seeing is believing' holds for objects of a higher order as well as for the sensory objects which they relate. Seeing is believing, and all talk of a further criterion of 'subjective certainty' seems as meaningless as to ask for a criterion

[1] *Principles of Psychology,* II, 299-311.

of hunger or any other immediate experience. . . ."[2] And G. F. Stout: "Primitive mental life, so far as it involves objective reference at all, seems to consist wholly in sense-perception. But sense-perception normally includes affirmation of the object perceived. It is, in the language of Reid, 'the conception and belief which nature produces by means of the senses'."[3] William Stern states his proposition to the same effect, quite bluntly: "It is in the nature of every perception to bring with it a suggestion of its own truth, a prompting to believe in it."[4]

It would seem difficult, then, to deny the proposition contained in the first sentence of the present chapter, a proposition the validity of which the writers quoted unanimously affirm in their varying terminologies. It is futile, indeed, to claim that the reality adhering to the object naïvely perceived is due to individually and ontogenetically acquired knowledge; for, if we do that, we are called upon to give a rational account of the way by which the latter knowledge is gained, and this is an impossible task. It is also, as James has pointed out, inconceivable that doubt on the part of the naïve mind as to the reality of the object perceived could have any meaning whatsoever: "Suppose a new-born mind, entirely blank and waiting for experience to begin. Suppose that it begins in the form of a visual impression . . . of a lighted candle against a dark background, and nothing else, so that whilst this image lasts it constitutes the entire universe known to the mind in question. . . . What possible sense (for that mind) would a suspicion have that the candle was not real? What would doubt or disbelief of it imply?"[5]

All evidence, then, urges us to accept the proposition that, naïvely, *we believe what we perceive by virtue of racially evolved purposive organization of our mind,* and, although we cannot prove this view, we can justify it by biological and philosophical considerations.

Assume, as the biologist does, that there is an external world, part of which is regulated by physical law, continually

[2] *Psychological Principles,* pp. 349-351.
[3] *Analytic Psychology,* I, 112.
[4] *Psychology of Early Childhood,* p. 273.
[5] *Principles of Psychology,* II, 287.

manifesting itself in physical events. Assume, also, like the biologist, that the living beings, in order to survive individually and racially, have to adapt themselves to all these physical events which, less such adaptation, would irresistibly engender their destruction. Then, an important feature of adaptive evolution would seem to be the acquisition on the part of the living organisms of an increasingly proficient mode of knowing the physical world and its events. As a result of this adaptive need, our apparatus of perceiving the assumable external world, or our exteroceptor sensorium, evolves and becomes increasingly refined. The question may still be raised as to the extent to which the symbols of the physical world yielded in perception adequately correspond to the absolute nature of the latter. But this question is a philosophical one, occurring to that highly developed human adult who is metaphysically inclined. He may doubt the validity of the perceptual awareness symbols; he may even doubt the existence of the physical world. But, surely, if the capacity of perceiving evolves as a means of adaptation, and if it actually promotes adaptation and thus the survival of the individual, as can hardly be called into question, it would seem to be absurd to doubt that the perceptual symbols—at any rate sufficiently for the practical purposes of adjustment—approximate the nature of the (X) for which they stand. Even more absurd would it be to doubt that, naïvely, the living being—enjoying the property of being able to perceive with all its advantages—would apprehend as realities the things which this property acquaints him with, these things which seem to be of such eminent significance in all his endeavor.

If it is evident that naïvely the object of perception by biological necessity is an object of belief, it is no less evident that the object of desire is naïvely apprehended as an object of belief, as an important psychological reality. Biological and philosophical arguments analogous to the ones above could as well be brought in support of the latter proposition as of the former; but the theorem that the object desired is naïvely apprehended as an object of belief obtains a more immediate support by a fact that has as yet not been explicitly recognized, namely, that the psychological object perceived is always naïvely

an important constituent in the psychological goal of a simple freely working impulse; it is, in fact, the spatially projected psychological object of desire. This, in other words, signifies that the two propositions, (1) the object perceived is naïvely apprehended as a reality and (2) the object desired is naïvely apprehended as a reality, are actually only two sides of one and the same more fundamental psychological truism, namely: the goal striven for, whether its apprehension comprises perceptual or merely imaginary constituents or both, is always naïvely apprehended as a reality.

The recognition of the two propositions referred to being fundamentally one and the same has been, to some extent, delayed by the fact that there has been an intellectualistic lag even in the most advanced hormic psychology, accompanied by a slight confusion of the causal relation of cognition and conation. Although a writer like William McDougall strongly emphasizes that the meaning of an object of thought definitely is determined by striving, this author, at the same time, states that a certain simple mode of perception calls into play impulsive activity.[6] I have attempted to solve the contradiction of these statements in a new theory of perception which I laid down, tentatively, in my recent work *Conation and Our Conscious Life*. As this theory, I believe, is the only one upon which it becomes fully clear that, naïvely, the object perceived is an important constituent in the goal-object of the impulse—meaning that the two propositions: (1) concerning the reality of the object perceived and (2) concerning the reality of the object desired, are only two sides of one and the same more fundamental proposition—and as the latter situation is pertinent to the explanation of emotional induction of belief in that it adds considerable support to the basic psychological truism upon which such explanation inevitably has to be founded, I shall briefly review my theory, referring the reader for further details to my original monograph.

[6] Samuel Alexander, the only hormic psychologist who has attempted to rid himself completely of the intellectualistic lag referred to, and to make conation consistently the basis of all mental process, has only succeeded in sketching a doctrine of mental life, unfortunately too insufficiently to permit further development ("Foundations and Sketch-Plan of a Conational Psychology," *British Journal of Psychology,* IV, Parts 3 and 4).

The theory is consistently hormic and a variant or specimen of what one might call "psychic stimulus hypotheses." The general philosophical premise upon which it has been founded is a strict psycho-physical dualism. The living being, by virtue of its physical properties, is regarded as a constituent of an infinite physical field or continuum. Any event in the latter might irradiate into the organism as purely physical process. Certain physical events, however, do more than merely irradiate into the body, notably those which, in a biological sense, threaten the welfare of the organism. These events call into play mental activity on the part of the organism and, by so doing, bring about the adaptation to the threatening situation which is required by the safety of the organism. By virtue of its mental properties, the living being is also a constituent of an infinite psychic field or continuum. Just as it responds with adaptive mental activity to certain events in the physical field, there is a possibility that it might respond with mental activity to certain events in the psychic field. Such responses would assumably be the spontaneous creative activities beyond adaptive necessity which can be observed in the highest animal species, man, particularly in some of his aesthetic endeavors.

Adaptive mental activity, then, is always called up by some event (X) in the physical field of the organism. During evolution adaptive activity differentiates into distinguishable impulses. According to my theory, these are of two main kinds: the primordial or general impulses, and the special impulses. To the former belong general curiosity, general deference, and sleep; to the latter, all the instincts. The general and the special impulses alike are inborn in the species; the latter have not developed out of the former, there being a parallel evolution of each of the two categories.

Of the primordial impulses only one, general curiosity, is of direct significance in the act of perception. According to the theory, primordial or general curiosity is an impulse which is called into activity by any biologically significant event in the physical field of the organism. Its function yields simple awareness signs or symbols of the latter events; in its most primitive form it yields merely the awareness of unlikes or con-

figurations of unlikes of minimal concrete meaning or object-connotation, if you so wish, of simple figures on ground—the simplest of all relations. The primary aim or purpose of this general impulse, we may say, is the comprehension of these simple unlikes and relations of unlikes. In so far as physical event irradiates into the organism's body in the form of afferent nervous process excited through impression upon the exteroceptor and interoceptor receptors, primordial curiosity, responding to this organic continuation of external physical event, yields unlikes of the kind called sensations. These, however, are rarely experienced per se; for, as we shall soon see, they fuse indiscriminably with other awareness qualities resulting from the simultaneous function of impulses other than general curiosity, notably some of the specific ones.

The specific impulses differentiating during evolution are the instincts. An instinct may be defined as an innate disposition to a specific kind of adaptive behavior subserving the satisfaction of a specific biological need of the organism. Each instinct, just as each of the general impulses, we conceive as an independent source of mental energy. Instinctive activity like all adaptive mental activity is called up by an event (X) in the physical continuum of the organism; each instinct, by its own peculiar and specific event or (X). The instinct is brought into function as a unit, a whole, the first phase of its activity consisting in a general effervescence of its energy. This process immediately irradiates into several specific sub-processes. The latter are of three general kinds, two being distinctly conscious processes, the third not. These processes are: (1) a process of *emoving*, (2) a process of *meaning*, and (3) a process of *moving*. Coinciding and co-operating with these processes, there is always a function of primordial or general curiosity activated by the same event in the physical continuum as the one which instigated the special impulse, and, yielding the discrimination of unlikes and configurations of unlikes symbolizing the latter event. In so far as the instigating physical event irradiates into afferent nervous process, primordial curiosity conveys the awareness of configurations of sensations.

The meaning sub-process of the special impulses, of course, is the one that is of direct significance in the act of perception;

but a full understanding of its rôle can be gained only in the light of the other two sub-processes, the one of emoving and the one of moving. I am thus compelled to submit a brief description of the function of the instinct in all its phases.

The emoving and the meaning sub-processes of instinctive activity constitute the two conscious processes of the impulses. The former yields the feeling of need and of an urge to remove the latter. This mode of experience, or at least its need component, in its very primary phase is probably different in each instinct, while the urge component most likely is qualitatively the same in all special impulses. The feeling of need becomes further differentiated through a peculiar fusion with simultaneously generated awareness qualities from another source. What I refer to is the sensory qualities yielded by primordial curiosity reacting to the interoceptor processes into which the physical event instigating both the latter impulse and the instinct has extended. As the interoceptor processes vary, at least partly, with the physical events (X), (Y), and (Z) which serve as the evocator of different instincts, the interoceptor awareness qualities elicited by primordial curiosity also vary, and, consequently, the fusion of the feeling of need with these qualities effects the finer differentiation of affective experience into such definite emotions as anger, fear, lust, repulsion, food-hunger, and so forth.

The meaning sub-process of instinctive activity, the second of the two conscious processes constituting simple instinctive life, yields the awareness of a psychological ego-object relation, the realization of which will satisfy the impulsive need. This ego-object relation which, for the sake of convenience, I have called the (EO)-relation, is different in the different instincts, but, in all cases, it comprises the anticipation of satisfaction of the need through its realization. In other words, the ego-object relation and its significance to the need are psychological realities; they constitute something believed by the organism. They are the most conspicuous examples of racial memory and racially inherited belief. The specification of the properties of the (EO)-relation corresponding to each instinct, like the differentiation of conation into special impulses at large, is a matter of adaptive evolution. The meaning of the

(EO)-relation, in its primary phase, is not a perception of the latter. It is a knowing of the relation by inherited memory-disposition, a retrospective imagination that reaches back far beyond the ontogenetically acquired memory-continuum. This archetypal cognition of an object and of an ego-object relation turns into perception of the former by virtue of a process of fusion. The archetypal knowing referred to fuses indiscriminably with sensations, simultaneously elicited through the reaction of primordial curiosity, particularly to the exteroceptor nervous processes into which the instigating physical event (X) has irradiated. As exteroceptor nervous process represents the direct continuation within the body of an event in the external physical continuum, these sensory qualities come to stand ultimately for occurrence in the psychologically external world; in other words, they are spatially projected unlikes, or figures on ground. Thus, through the fusion concerned, the object of the (EO)-relation-to-satisfy-a-need becomes also projected or externalized, acquiring the property of being located in space. Only then can it be properly spoken of as perceived. It is important to note, then, that knowledge of and belief in the reality of the object of the (EO)-relation-to-satisfy-the-need is present through racial inheritance, independent of the process of perceiving, this knowledge and belief being the immediate result of the second sub-process of instinctive activity. The process of perceiving adds to the archetypal knowledge, the knowing of and believing in the object as a reality existing out in space.

The third sub-process of instinctive activity, the process of moving, comprises all the reactive modifications of the body which subserve the realization of the (EO)-relation-to-satisfy-the-need of the impulse, or, as we may also say, all those bodily functions by which mind establishes the adaptive changes which are required by the safety of the organism. Violating current terminology, we have then to include in the latter process more than is popularly implied by the word *move;* for we have to include not only the overt translocation of abode in space, but also changes of posture, and physiological changes within the body which prepare and promote efficacious overt conduct. Thus we have to subsume in the process of moving such re-

actions as the increased secretion of adrenalin in rage, the changes in vaso-motor function and heart action in anger and elation, the increased flow of saliva in hunger, and so forth.

The process of moving differs in the different instincts in the sense that the type of adaptation it aims to accomplish is fundamentally different in each of the latter. Certain phases in the actual execution of the adaptation are frequently common to different instinctive impulses; others are not. The bodily changes urged by the moving process might, themselves, serve as excitants of interoceptor or proprioceptor nervous process. Whenever this is the case, primordial curiosity yields new sensory awareness symbols of such nervous event, and these may enter into a secondary fusion both with the awareness signs elicited by the emoving and by the meaning subprocess of the impulse. The secondary interoceptor sensations may thus, in so far as they differ in different instincts, contribute to a further qualitative differentiation of emotion, while some of the secondary proprioceptor sensations, particularly the kinaesthetic ones, may fuse with the cognitive awareness qualities ensuing from the conation at work and yield added distinction to the perceived object of the (EO)-relation.

The theory of perception, then, sketched in my monograph *Conation and Our Conscious Life* and here reviewed, holds that the latter process is essentially one of a fusion of two constituents. One of these is the immediately apprehended meaning of the object of an (EO)-relation-to-satisfy-a-need, yielded by a certain special conation, the other a configuration of unlikes elicited by the reaction of primordial curiosity to the physical event which, coincidingly, called into activity the latter impulse and the special impulse concerned. In other words, perception is a fusion of racially inherited knowledge with certain unlikes or configurations of unlikes standing for a present physical event. I need not add that this description pretends to be valid only for the most primitive forms of perception.

If the theory outlined gives an adequate account of a psychological act, it becomes evident that primitively the object of perception is the object striven for, at any rate in the sense that the latter object is that which the organism attempts to

bring into a specific ego-relation in order to satisfy a specific need.

As, by racially evolved innate organization of mind, the object of the (EO)-relation-to-satisfy-a-need—as apprehended merely through the meaning sub-process of a special conation—is also an object believed—the realization of this relation being naïvely believed to satisfy the need of the latter conation—it follows that the same object in so far as it becomes perceived remains an object of belief, now further qualified by being localized in space. And here those routes of reasoning and theorizing meet and close which eradicate the difference between the two earlier stated propositions: (1) the object perceived is naïvely apprehended as a reality and (2) the object desired is naïvely apprehended as a reality, making them instead merely two aspects of one and the same fundamental psychological principle, namely, that the goal of a striving is always naïvely apprehended as a reality.

The theory of perception here propounded, implies that each variety of special conation educes knowledge of and belief in its own goal. Such knowledge and belief are held to be due to racial memory, to archetypal cognitive disposition varying in complexity on different levels of evolution and determining in each species the peculiarities of adaptation. The theory, in other words, entails the supposition that cognitive process is part of adaptive activity from the very beginning of life. But cognitive process can guide activity only in so far as the immediately apprehended object of the (EO)-relation-to-satisfy-a-need becomes projected in space through perception. As it would be biologically absurd to postulate a completely useless knowledge of a goal, we are bound to assume some form of perception in all species. Below a certain level, the latter perception would have to be 'extra-sensory.' Thus we are compelled to abandon the notion that perception is inevitably conditioned by a nervous system with more or less specific receptors. Instead, we have to assume that, in the case of simple species without a nervous system, physical events are still capable of irradiating in some way into the body of the living beings, evoking both simple special conation and simple general curiosity, and that, even in such cases, a fusion

of awareness symbols elicited by each of these impulses results in a simple perception with accompanying externalization of the object of a simply apprehended (EO)-relation-to-satisfy-a-need.

The view to which I here commit myself, namely, that experience guides behavior on all levels of animal life, is rejected by my colleagues with very few exceptions. To me, the view has a distinct aesthetic appeal in that it introduces unity into the multitude of life-manifestations. But, if I could bring to its support only its aesthetic property, it would be rather poorly supported. It has, in addition, a practical appeal. It makes the behavior of the infra-human organisms—even the lowest ones—understandable, although it is by no means inevitable in order to make the latter explicable. For, indeed, so-called explanatory hypothesis might, and often does, consist of an artificial fiction which—it is true—explains upon its own premises, but which is yet so distant from all common-sense knowledge as to bring explanation and understanding millions of miles apart. Unfortunately, the latter has been too much the case in psychological science. (I am not prepared to elaborate in any technical manner the difference between explanation and understanding. In German psychology of the *geisteswissenschaftliche* type the distinction between *erklären* and *verstehen* is becoming explicitly recognized, and even the term *verständnisspsychologie* is at present used in a semi-technical sense.)

If there were any weighty evidence that the lower animals are not guided by experience, of course, my hypothesis would fall. There is no such evidence. Furthermore, there is neither any philosophical nor logical consideration upon which one can conclusively base the denial of such guidance. It is upon the latter state of affairs that I wish to submit a few comments in indirect support of the view which I here advance. I shall debate only guidance by perception, but my argument can easily be extended to include both guidance by memory, by affective experience, and by belief.

My argument must begin with a consideration of the grounds upon which adult human beings infer perceptual guidance in their fellow-men; for this inference, after all, might be no less faulty than the inference of such guidance in species below man.

It could hardly be denied nor even doubted that our appreciation of the reality of the mental processes of perceiving and of

guidance by perception is ultimately based upon our own individual experience of perceiving and of acting in reference to that which we perceive. The naïve assertions: *I see, I hear, I taste,* or generally *I sense,* are at the root of all affirmation of perceiving and of perceptual guidance, not only as a subjectively experienced reality, but also as a conscious process guiding other men, and perhaps living beings below man. Attributing to others the ability of perceiving and of being perceptually guided, then, is always an inference, for the simple reason that no man is directly aware of any other experience than his own. Yet the ground for such inference in regard to our fellow-men consists of a fairly valid set of analogies.

Which, more especially, are these analogies?

It would seem that at least three fundamental grounds of the inference of perceiving and perceptual guidance in others can be distinguished:

I: Every man knows that, on many occasions, he himself indicates that which he perceives in spoken words, as when, for instance, he says: *Look, a daffodil;* or *Heil! Mr. Senator!* or, *I saw, then, four fierce-looking horsemen.* On other occasions he may express the fact that he perceives merely in a diffuse ejaculation: a cry of fear or pain, a burst of laughter, and so forth. Every man knows also that, on occasions, his fellow-men give voice to similar vocal utterances, both of the articulated verbal and of the diffuse emotional kind. From these facts he concludes that his fellow-men experience, if not identically, at least similarly to himself; in other words, that they perceive.

II: Every man recognizes himself as the owner of a set of sense-organs (eyes, ears, nose, tongue, and so forth); also that the functioning of these in some fashion conditions his own perceiving. When his eyes are closed he does not see; when he has a cold in his nose he does not smell, etc. Similarly, he recognizes that the majority of his fellow-men possesses the same kind of organs; and, as a consequence, his inference that his fellow-men perceive is indirectly supported. This inference, no doubt, is further sustained by every man's appreciation of the *general* anatomical similarity between himself and the latter (the similarity that is inde-

pendent of or additional to the community of sense-organs).

III: Every man knows naïvely that, frequently, he acts directedly and purposively in regard to that which he perceives, as, for instance, when he hastens towards the perceived shelter in order to escape the rain, or when he tackles his Thanksgiving turkey by the leg in order to divide it between his guests. On many occasions he has also the opportunity of observing his fellow-men act directedly and, as it appears, purposively in regard to certain things apprehended by himself. From such experience he educes a second support for the conviction that his fellow-men, like himself, perceive these things and are guided in their activity by such perception.

The above three criteria from which we infer perceiving and perceptual guidance in our fellow-men, as a matter of convenience, we shall call:

(A) oral testimony, comprising two sub-types:
  (1) articulated speech testimony,
  (2) diffuse, non-articulated testimony;
(B) anatomical similarity;
(C) purposively directed activity.

The first and the third of these constitute what, in my monograph *Conation and Our Conscious Life,* I have spoken of as the *criterion of the as if,* an expression by which I intended to indicate that, whenever any living organism in any way acts as if guided by experience—the latter as evaluated on the ground of the observer's own immediate phenomenal experience—we have a fair right to infer that the organism actually might be aware of something and might be guided by its awareness.

It would seem proper that, if we wish to decide to our own satisfaction whether or not the infra-human living beings perceive and are guided by perception, we should let our decision rest upon the same criteria on which we infer such processes in our fellow-men; that is, upon the criterion of anatomical similarity and upon the two criteria of the *as if.*

How do these criteria apply to various levels below man in the scale of the animal kingdom?

The answer would seem to be as follows:

I: No animal is capable of indicating perception by articulated speech, language seemingly being the property of man alone. But many of the higher animals are capable of diffuse vocal expression, sometimes of a sufficiently differentiated note and timbre to make the unsophisticated layman interpret it as the expression of perception, such as the perception of bodily pain, the perception of a threatening or of a satisfying situation, or what not. Below a certain level in the animal scale, however, animals are mute; or, at least, their vocal utterances are below the threshold of human apprehension.

II: Many infra-human organisms present distinct anatomical similarity to man. How far down in the scale we appreciate this similarity is to some extent a matter of education. Some observer may recognize it only where he can notice an unquestionable community of sense-organs between animal and man. But, in turn, where does such community cease? A biologist will acknowledge a pigment spot on a speck of protoplasm as a rudimentary eye, while an uneducated person might refuse to accept the stalked eyes of some Crustacea as organs of vision. One of my colleagues, in conversation, claimed to appreciate an anatomical similarity between all living beings—from amoeba to man—in the fact that all living organisms are anatomical and functional wholes; this, it would seem, being to stretch apperceptive synthesis to the utmost. However, it is not our concern to find an exact point in the scale of evolution above which anatomical similarity between animal and man is apparent and below which it disappears; all that is of importance to us is to appreciate that between man and a large number of species even low down in the animal kingdom such similarity is evident; similarity in this respect being apparent far below the level upon which vocal expression is observed.

III: All living organisms behave directedly and, as it were, purposefully in regard to objects; this being true even of the simplest organisms: the amoeba, the paramoecium, the stentor and others, in whom the anatomical similarity to man, if any, is utterly distant.

If we summarize what has been said above, we find that, broadly speaking, the scale of the animal kingdom below man might be divided into three parts or levels, to each of which the criteria of perceptual guidance—valid with regard to our fellow-men—apply differently. On the lowest level only criterion (C), purposively directed activity, applies; on the middle level criteria (B), and (C) both apply, that is, anatomical similarity to man, and purposively directed activity; and, on the highest level, criterion (A) applies in part, in addition to criteria (B) and (C); that is, on this level we observe diffuse—not articulated—vocal expression (A2), anatomical similarity to man, and purposively directed activity.

The sketchy survey of the animal kingdom here concluded has been entirely descriptive. What inferences may be drawn from it as regards perceptual guidance as a characteristic of animal life at large? None whatsoever. Even if we accept as correct the description, this does not by logical necessity compel us to any definite conclusion concerning the problem we are facing.

The three criteria of perceptual guidance were derived from human introspective experience. To every man's fellow-man they all apply, constituting the ground upon which every man confidently infers perceptual guidance in other human beings. To animals they apply only incompletely, the completeness of their relevancy decreasing as we descend the animal scale; and this is exactly the reason why we are still left fully at liberty to take any attitude we wish concerning our problem.

If we choose to consider full application of all the three criteria, (A), (B), and (C), necessary to justify the inference of perceptual guidance, then, we acknowledge such guidance only in man.

If, on the other hand, we choose to consider partial application of criterion (A), diffuse vocal expression (A2), and full application of criteria (B) and (C) sufficient ground of inference, then we grant perceptual guidance to man and to some of the higher animals: mammals and birds.

If, thirdly, we choose to consider merely full application of criteria (B) and (C) necessary, then, we acknowledge perceptual guidance in man and in all animals within the level upon which anatomical similarity to man is apparent.

If, lastly, we choose to consider criterion (C) alone sufficient ground of inference, only then do we acknowledge perceptual guidance throughout the animal kingdom.

No particular one of these choices can be held logically more acceptable than the rest. Each one may be proper—each one may be erroneous. This being the case, the choice of attitude towards the criteria and their significance becomes entirely a matter of individual bias: scientific, aesthetic, philosophical, or religious.

I shall not indulge in any divination as to the bias which has determined the choice of attitude of the majority of my colleagues, but, rather, restrict myself to the statement that I, for one, have chosen to consider criterion (C) alone sufficient ground of inferring perceptual guidance in living beings—the consideration that permits me to acknowledge the continuity of the latter function throughout animal life. And my bias? I have implied it earlier. It is twofold: it is partly an aesthetic bias, partly a desire for the fullest possible understanding of animal nature and, thereby, ultimately human nature.

Though my argument has been restricted to the perceptual process and guidance, it can easily be extended to apply to all guidance by experience. Just as there is a *criterion of the as if,* upon which you may—if you wish to—infer perception and perceptual guidance throughout the animal kingdom, there are similar *criteria of the as if* which are relevant both to memory and affective process, and to the process of belief; the criterion of memory being improvement in the performance of directed activity; the criterion of affective experience or desire, the apparent urgency of directed activity until a goal is reached; and the criterion of confidence or belief, the seemingly unhesitating approach to the goal.

In the beginning of the present chapter two propositions were stated, each of which was regarded as a psychological ultimate, an irreducible psychological truism. The propositions were the following: (1) the object perceived is naïvely apprehended as a reality, that is, an object of belief; and (2) the object desired is naïvely apprehended as a reality, that is, as an object of belief. A number of prominent writers were quoted who have acknowledged the former proposition as a psychological ultimate, more especially William James, James Ward, G. F. Stout, and William Stern. The suggestion that the second proposition with equal right as the first has to be considered an irreducible psychological truism, is not wholly my own, though I believe it has not been explicitly and pointed-

ly stated before. McDougall, however, refers to it in his discussion of primitive credulity.

If I am justified in assuming that the latter proposition has to be considered a psychological ultimate, an irreducible psychological truism, then, there is little more to be added. Furthermore, there is hardly anything more to be said about emotional induction of belief, the latter becoming the self-evident consequence of the truism concerned. For, without comments, it will be apparent that if a desire possesses an individual, a desire that generates imagery of its own goal—as is characteristic of all desire—the latter goal, no matter how it might appear in the eyes of other people, in virtue of the ultimate psychological principle discussed is bound to become to the desiring subject a paramount reality (*nota bene:* if this development is not checked by corrective rational process). Thus, the little child's belief in fairy-land and the "big bad wolf," and the older child's belief in the infallibility of the hero, would be directly and easily explained. Thus, also, would all the manifestations of credulity displayed by primitive people be sufficiently accounted for.

Why, then, have I devoted this long chapter to the theory of emotional engenderment of belief? Essentially in order to offer indirect support to the crucial theorem: *the object desired is naïvely apprehended as a reality;* or, perhaps, rather in order to justify my claim that this proposition is an irreducible psychological truism. This I have attempted by showing its close relation to—indeed, near identity with—the proposition: the object perceived is naïvely apprehended as a reality—a proposition which has been acknowledged fairly generally as a psychological ultimate. In demonstrating that the object perceived is always naïvely the object desired, and, thus, that the two propositions concerned fundamentally are merely different aspects of one and the same more basic biological-psychological principle, namely, that the goal of striving is always an object of belief, I have brought the weight of authority of those men who have accepted the first principle to bear on the second and also upon the one in which both are comprised, the latter being merely a broader formulation of the former.

CHAPTER V

The Rational Induction of Belief

Ratio . . . quasi quaedam lux, lumenque vitae.
Cicero, *Academicarum Quaestionum,* Bk. I, Ch. 5, sec. 8.

Curiosity is one of the most permanent and certain characteristics of a vigorous intellect.
Samuel Johnson, *The Rambler,* No. 103.

LET US RECALL for a moment the two children from our first chapter, the children to whom the slot-machine was shown. One of the latter wanted a second penny put into the slot because he was eager to have another piece of chocolate. I suggested that this child's interest in the machine was essentially in its centripetal ego-relation. The other child wanted a second penny put into the slot beause he desired to know how the machine produced the chocolate. The interest of this child, I intimated, was not dominatingly in the ego-relation of the machine, but rather in the relation of part to part of the latter, and of the total machine to the falling out of the piece of chocolate. His interest, in other words, was centrifugally directed, being an interest in the relation of things to things rather than in the relation of things to himself.

Any active interest reflects the working of some impulse or some impulses, this being one of the basic assumptions of hormic psychology. The interest urging the desire of the first child, who wanted another piece of chocolate, is evident; it is a near derivative of the food-seeking instinct. But what is the impulse urging the desire of the second child, the desire to know how the machine produced the piece of chocolate? In my monograph on *Schizophrenia,* I suggested that this impulse is the one of curiosity, and I argued the proposition that the rational or objective viewing of things in their universal relations is always ultimately the expression of the curiosity impulse.[1] It is my intent to try to elaborate this proposition further in the present work.

Since writing about schizophrenia, it has occurred to me

[1] *Schizophrenia,* pp. 55-58.

repeatedly that curiosity cannot properly be classed as an instinct. It is true that curiosity very likely has an innate basis, yet, as an impulse, it differs sufficiently from the instincts proper—as these have been distinguished and described by William McDougall—not to be validly placed on the same plane as the latter. There are three reasons why I reject the hypothesis of an instinct of curiosity:

I: The aim of the curiosity impulse is distinctly not to realize an ego-object relation—as is the case with all the instincts proper—but, rather, to comprehend an object-object relation; in other words, its purpose is not to realize but merely to understand relations.

II: The aim of the curiosity impulse, namely, to comprehend object-object relations, is too indefinite and diverse to permit the classification of curiosity with the instincts, for the proper definition of an instinct is an innate disposition to a specific kind of adaptive behavior subserving the satisfaction of a specific biological need of the organism.[2]

III: Comprehension of object-object relations is the condition of successful progress towards any one specific biological goal, this being particularly evident whenever the realization of a specific ego-object relation offers alternative routes, or when it is obstructed by an obstacle of some kind. Thus, curiosity, in the sense of exploring the psychological field of an organism, is active in mostly any specific purposive endeavor.

Counter to the first of these arguments, it might be pointed out that there are instances when, superficially seen, the plain *knowing something* or the plain solution of a problem appears introspectively to be itself of eminent ego-concern. These instances I would interpret as cases when knowing conditions

[2] I feel, though I cannot fully make up my mind, that the so-called instinct of pugnacity or of anger, like curiosity, should not be classed among the instincts proper, but, rather, be spoken of as a fourth general impulse, one of general defiance. This would place it on the level of the three other general impulses: curiosity, sleep, and deference. As this question, however, is of little or no concern to the theme of my present work, I shall not argue my point further.

the satisfaction of special impulses. A thirsty man in a desolate and arid zone of land may wish intensively to know where water is to be found. Apparently, this knowledge is of a profound ego-concern, and, at the time when he applies reasoning in order to figure out which is the most likely direction in which water might be procured, it will seem transitorily as if the acquisition of this information itself is his dominating interest.

The scientist, one may say, wishes to know independently of the satisfaction of any special impulse; to him knowledge is itself a pure and isolated ego-concern. This, I believe, is an illusion arising from the fact that the special conation, the satisfaction of which is yielded by the apparently unbiased gain of knowledge, is a very complex one; for, in his case, the desire, satisfied by knowledge, emerges from his sentiment of self-regard or self-respect—he having made the goal of his highest aspiration to investigate and discover object-object relations—be the latter limited to a special branch of science, or, as in the instance of the philosopher, extended so as to embrace the relations between all things in that fraction of the universe which is accessible, even remotely to the contemplation of the human mind. I would suggest, then, that on all occasions when the attainment of a specific or general knowledge is thought in intensive ego-relation, as an important ego-concern, the knowledge serves the satisfaction of some special conation, simple or complex; and the emotional excitation that is likely to accompany the search for knowledge in these instances, I would consider as essentially derived from the latter conation. The comparative absence of emotional excitation in the scientist's search for knowledge—even when the knowing is an eminent ego-concern—is to be explained by the fact that, as a general proposition, emotion abates when the special conation urging an endeavor is highly complex, and nearly vanishes when the generating conation is *will,* that is, when the activity is engendered by the total integrated unit of a man's character, the latter being frequently the case with the scientist. If the efforts of the scientist should fall down temporarily to a lower plane of motivation, as when he tries to solve a problem in order to assert himself over an envied colleague, emotional

excitation will again be likely to qualify his search for knowledge.[3]

In view of the above considerations, I postulated—in *Conation and Our Conscious Life*—the primordial or general impulse of curiosity, which has been partly discussed in the previous chapter and which, as we have seen, is of broader significance than any specific instinct.[4] It is from this general impulse, rather than from an instinct of curiosity, that I suggest we derive the rational consideration of object-object relations, which is so important in the mature engenderment of belief. This suggestion constitutes the postulation of an extension—at least in the higher animal species and in man—of the rôle of general curiosity, an extension far beyond the simple rôle of discriminating unlikes, or figures on ground, significant in the process of simple perception.

The argument that led me to the hypothesis of primordial or general curiosity was as follows:

It is a fair assumption that all living beings are subject to a cycle of waxing and waning alertness. This cycle should be conceived of not merely as a physiological one or as a cycle entirely within the bodily realm of the organism. It should be thought of, rather, as a conative cycle and, accordingly, as a cycle of mental activity, more especially as a purposive alternation of two distinct primordial or general modes of striving, notably of the impulse of curiosity and the impulse of sleep. The purposive rôle of the latter impulse, which I shall state first, is evident. By reducing, even transitorily exterminating any state of alertness, it subserves the protection of the organism from destruction by exhaustion. It is instigated presumably by physiological events within the body, more especially by unduly extensive catabolic process resulting from overexertion connected with any mode of psycho-physical activity.

The nature and rôle of primordial curiosity, in its simplest most primitive manifestations, have been discussed in the

[3] There is also a possibility that certain men develop a taste for the activities of inquiry without the acquisition of knowledge being the goal of their dominant ambition. To some of these individuals the inquiry might become a purely logical contemplation, in which case the relations contemplated lose nearly all reality-concern (compare chap. xvi).

[4] *Conation and Our Conscious Life,* chap. ii.

previous chapter. There it was dealt with only to the extent necessary for the explication of the process of perception. I shall here briefly review the discussion referred to; I shall then add some new considerations concerning the higher accomplishments of the primordial impulse as the latter develops in the advanced species of the animal kingdom, particularly in man.

Primordial or general curiosity, then, is this peculiar impulse which differs from all specific impulses, such as instincts and sentiments, in the important respect that its aim seems to be merely to comprehend. We may assume that general curiosity is called into activity by any physical event which is biologically significant to the organism, in the sense that the safety of the latter requires adaptation to the former. Furthermore, we may assume that the functioning of curiosity is the actual process of becoming aware of simple signs and symbols of these events. Primordial curiosity always co-operates with special life-preserving impulses, such as instincts or derivatives of instincts, the function of the latter being instigated coincidingly by the same event which called into activity general curiosity. Such co-operation eminently subserves the orientation of any purposive endeavor in the external world. Curiosity being instigated by all biologically significant physical events in the organism's environment is prone to be in fairly permanent excitation; indeed, we may assume that it is quiescent solely when submitted to direct inhibition on the part of the other primordial impulse of the cycle, the impulse of sleep.

The function of the curiosity impulse, then, is the very process which yields simple awareness signs or symbols of events in the environment of the organism. It is the general process of comprehending these events in the terms of simple unlikes, projected away from the self in space, inter-related within themselves spatially and also temporally in simple series of contiguous changes, the first attribute implying that the impulse concerned is effective also in the discrimination of the self from the external world.

A living organism, by virtue of its bodily property, is a part of the physical field immediately surrounding it. Some-

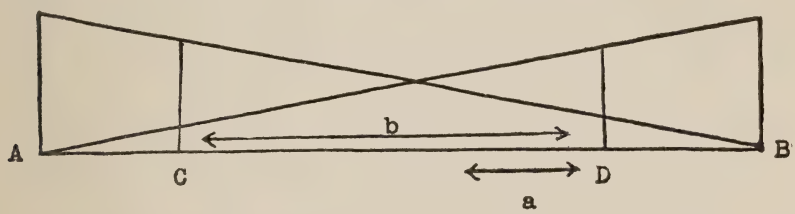
times events in the physical field are directly or indirectly continuous within the organism's body, as in the case of physical process initiating nervous process. Primordial curiosity, responding to biologically significant physical event at large, accordingly, responds to nervous process within the body, yielding awareness symbols of the latter. These awareness symbols are the so-called sensations or sensory qualities which may belong either to the exteroceptor, the interoceptor, or the proprioceptor group. Sensations, however, are rarely if ever experienced per se, for in actual life primordial curiosity practically always co-operates with specific impulses, and, whenever that is the case, the symbols or qualities yielded by primordial curiosity reacting to afferent nervous process, fuse indiscriminably with awareness manifestations of the specific impulses. Part of this fusion, notably the fusion of a meaning yielded by special conation with exteroceptor sensations, constitutes the process of perception; while another part of the fusion, the fusion of the awareness symbols of emoving yielded by special conation with interoceptor sensations, constitutes the process of differentiation of emotion.

I suggest that out of this primordial curiosity which, primitively, elicits only unlikes and configurations of unlikes, develops all appreciation of the relations of things to things, even the most complex ones; and also the rational impulse which urges man to consider such relations, and which, logically, can not be derived from any of the special modes of conation.

On the animal plane, even as high as on the level of the primates, general curiosity reaches only little beyond its primitive manifestations, while in man it undergoes a remarkable development, urging the consideration and appreciation of the most complicated relations such as the ones involved, for instance, in scientific and philosophical speculation. The difference between man and animal in the respect concerned, no doubt, is the ground of the philosopher's—like Descartes'—attribution of reason only to the former.

Man, then, is mentally bipolar, being at once emotional and rational, while the animal is largely emotional. Indeed, the superiority of man over all other living beings is, in large

measure, due to the characteristic mentioned; for, no doubt, the most perfect guidance of conduct is yielded by a consideration of the goal of an impulse not only in its ego-relation (the emotional consideration) but also in its universal relation (the rational consideration). The statement here made is slightly ambiguous and requires some qualification. Primordial curiosity always co-operates with special conation on all levels of animal life. Consequently, no living being is ever purely emotional or purely rational in its adaptive activities. The difference between man and animal is thus only a relative difference which has to be understood as follows:



Suppose that, in the above figure, line AB is a scale, each point of which represents a degree of relative prevalence—in some conative endeavor—of primordial curiosity, on the one hand, and of a special conation, on the other. Suppose that A represents prevalence of the former impulse to the complete exclusion of the latter; B, prevalence of the latter impulse to the complete exclusion of the former; and all points between A and B, varying degrees of relative prevalence of the two impulses as indicated by the super-structure upon the line. The first thing to note is that the two end-points on the scale represent abstractions and stand for ideal situations that never occur in any form of adaptive activity. The limit of relative prevalence of primordial curiosity we may theoretically set at point C and the limit of relative prevalence of special conation at point D. The general emotionality versus rationality of an organism would be indicated, then, by the predominance of its occupation of points near D or points near C, respectively—all its conative endeavors considered in total; and bipolarity of the urge of an organism would be indicated by the measure in which the latter—in various phases of goal-seeking activity—is capable of fluctuating along the range of the scale between

C and D. Accordingly, the difference between all animals, on the one hand, and man, on the other, can be expressed as follows: Animals, being prevalently emotional and non-bipolar in their conation, occupy a position on the scale near point D, and their range of fluctuation along the scale is the narrow one indicated by the small double arrow a. Man, on the other hand, being bipolar in his urge, that is, being sometimes prevalently emotional, sometimes prevalently rational, might occupy both positions near D and positions near C, his range of fluctuation being covered by the larger double arrow b. The instances when man is closest to C would be occasions when he coolly plans the attainment of an end by the high process of reasoning, in which he brings a wealth of the most intricate object-object relations to bear upon the approach to his goal.[5]

In order, theoretically, to account for the growth of the higher rational cognitive activities out of primordial curiosity, we have to assume that the latter impulse explores and relates not only that which is spatially present or temporally contiguous with the present, but also that it activates and explores the individual memory-continuum—as the latter is gradually formed—relating, on the one hand, present with past and, on the other hand, various items of the past with one another. Such assumption is in full harmony with the general principle underlying the activation of the ontogenetically founded memory-dispositions; for there seems to be a law concerning man's reproduction of his individual past, the essence of which is that any disposition to think an event of the past is prone to

[5] On rare occasions, man may be said to approximate position A on our scale, notably, on occasions when he is submerged in purely logical or purely aesthetic contemplation (compare chap. xvi), in which supreme delight attaches to the mere apprehension of orderly relations, this delight that Wordsworth depicts in the following beautiful passage from the fourth book of *The Excursion*:

> I have seen
> A curious child, who dwelt upon a tract
> Of inland ground, applying to his ear
> The convolutions of a smooth-lipped shell;
> To which, in silence hushed, his very soul
> Listened intensely; and his countenance soon
> Brightened with joy; for from within were heard
> Murmurings, whereby the monitor expressed
> Mysterious unions with its native sea.

be activated whenever the impulse is again at work that originally urged this event. If this proposition is assumed to apply not merely to the special impulses but also to primordial curiosity, it logically follows that primordial curiosity co-operating with specific impulses in any conative endeavor—being part of the joint conation urging the latter—is itself prone to activate the memory-continuum; but, as it has been an agent in all past conation, it also follows that it might revive any one portion of the individual memory-continuum—not being confined to a selection, as is the case with the special impulses. The exploration of the past by dominating primordial curiosity yields a peculiar kind of memory experience. It is a calm, unemotional review of the bygone in which the relation of event to event is the foreground consideration, rather than the relation of event to the remembering self.

It is only in virtue of its capacity of relating present with past that primordial curiosity is able to yield comprehension of relations in a broad sense. It is only in this capacity that it can establish enduring differences and enduring similarities between things.

The comprehension of similarities between things is the process known as apperceptive synthesis. Apperceptive syntheses are among the most important of all psychological acts, for it is in them that is rooted all inference of relations by analogy. It is by apperceptive synthesis that the apprehension of space beyond the presently perceived evolves, culminating in the appreciation of the spatially infinite. It is also by apperceptive synthesis that the apprehension of time to come, or future, and of time prior to the beginning of the individual life course evolves, reaching its climax in the appreciation of the temporally infinite. It is finally by apperceptive synthesis that the comprehension of the causal relation between things and events evolves—this aspect of universal occurrences which is of the most eminent significance both in adjustive and creative endeavor. *Vere scire, esse per causas scire.*[6]

The development of our appreciation of causal relationships requires comment. The universal consideration of the relation of things to things which, according to our theory is urged

[6] Francis Bacon, *De Augmentis Scientiarum,* Pt. II, Bk. II, aphor. 1.

by primordial curiosity, yields presumably the comprehension of the self as a thing among things, as an unlike among unlikes. The most important characteristic of the self as an unlike is that it seems to urge, to exert effort which produces change. The knowing of the self as the seat of urge we have to consider a psychological ultimate. It is the individual mind's most immediate self-recognition. As McDougall writes: "Descartes' famous dictum . . . needs revision; not 'I think, therefore I am,' but 'I strive, therefore I exist', is the foundation of all belief. . . ."[7]

The self, by an ultimate psychological principle, is the prototype of all causal agency. By virtue of an apperceptive synthesis of constituents in the purely external events, on the one hand, and the change-producing self, on the other, a projection of the cause-and-effect relation into the world around us is performed, after which the causal interpretation of all the occurrences in the physical world becomes the most important key to our knowledge of universal relations. This, I believe, is the proper solution of the problem with which David Hume dealt so inadequately in terms of his association psychology.

It is only by virtue of the appreciation of spatial and temporal relations in the broadest sense and of causal relations that rational process urged by the impulse of general curiosity can induce beliefs of pragmatically efficacious validity. For it is only upon the basis of the comprehension of these general relations that the complex relating of individual things, events, propositions, and what not, can be performed. It is only on that ground, for instance, that the resistance test of reality can be carried out, the appreciation of enduring resistance by an external existent implying comprehension both of general spatial and temporal relations, and of causal relations. The latter statement is true whether the resistance test is enacted upon the simple plane of perception, or upon the plane of retrospective imagination, or upon the high plane of reasoning.

The major features of the theory outlined in the present chapter can be summarized in the following brief propositions:

One of the general impulses which differentiates during

[7] *Outline of Psychology*, p. 375.

evolution is the primordial impulse of curiosity. Like all conation it is activated by biologically significant events in the physical continuum of an organism. The most primitive function of this impulse yields merely simple awareness symbols of the latter events, more especially the awareness of simple unlikes which are projected in psychological space, spatially inter-related, and temporally inter-related in contiguous series of changes.

In the highest species, particularly in man, general curiosity undergoes a remarkable evolution, becoming the impulse which urges and accomplishes the relating of things, events, and propositions in the most intricate and complicated sense. This evolution is conditioned by the assumed proposition that primordial curiosity, on the level of development concerned, activates the individual memory-continuum, relating not only what is spatially present or temporally contiguous with the present, but also present with the past and past with past—a broader process of relating that results in the appreciation of enduring differences and similarities between things.

The appreciation of enduring similarities between things, or apperceptive synthesis, is the ground of all inference of relations by analogy. Through this process evolves the appreciation of the spatially and temporally infinite, and the appreciation of the cause-effect relation, the latter being the result of a projection of the self—immediately cognized as a change-producing agent—into the things in the external world.

On the ground of appreciation of the general spatial, temporal, and causal relations the process of intricately relating individual things, events, and propositions of high complexity can be performed. Important among these complicated relating processes are those involved in carrying out the resistance test of reality, as enacted on all planes of mental activity, from the simple plane of perception to the complex plane of reasoning.

In the chapter here brought to conclusion I have attempted to explain the rational processes by postulating a hypothetical impulse from which they derive their energy and direction. We have to assume that, normally, the latter impulse gradually

matures in every human child, and that, as it reaches increasing maturity, it becomes more and more the agent which fashions the child's view of the world. And so:

> . . . time strips our illusions of their hue,
> And one by one in turn, some grand mistake
> Casts off its bright skin yearly, like a snake.[8]

[8] Byron, *Don Juan,* Canto V, st. 21.

CHAPTER VI

G. F. Stout: On the Psychology of Belief-Engenderment

G F. STOUT has undertaken a very interesting, though not fully clear, analysis of belief-engenderment, which, as far as it goes, is in harmony with the hypothesis laid down in the present work. It is, consequently, pertinent to my interest to submit it to a brief consideration. In presenting Stout's view, I shall follow his *Manual of Psychology* rather than his *Analytic Psychology,* for it is in the former *opus* that, without omission of any more vital evidence, he states his argument most intelligibly, concisely, and directly to the point.

Before reviewing Stout's analysis of belief-engenderment, it is necessary to offer a few statements as to his understanding of belief in general.

Stout holds that belief and judgment are alternative terms for one and the same mental process. "Judgment," he writes, "is the Yes-No consciousness; under it I include every mode and degree of affirmation and denial—everything in the nature of an acknowledgment explicit or implicit of objective existence. I use the term Belief as a convenient variant for Judgment."[1]

I have no vital objection against Stout's view in this concern; only, it has to be kept in mind that, in order to maintain the identity of judgment and belief, it is necessary to stretch the meaning of the former process so as to permit it to include the naïve affirmation of the reality of the object perceived. Stout himself does so.

McDougall accepts Stout's view in a certain measure, for he holds not that belief and judgment are identical, but that belief is determined by judgment. He adds that belief in the higher sense is always preceded by doubt, the act of judgment being the process which converts the latter into the former.

[1] *Analytic Psychology,* I, 97.

The primitive form of affirmation of the reality of the object perceived, McDougall would call not belief but confidence, confidence and belief being the same process on different planes of mental activity.[2] The temporary convictions which can be established in the hypnotic state and which are not preceded by doubt he would be compelled to call confidences rather than beliefs, while Stout, without violating his basic opinion, could well speak of them as beliefs.

Concerning the psychology of belief-engenderment Stout writes:

"There are two main points of view from which the problem of belief must be approached. It is at once a condition of activity, and conditioned by activity.

". . . Just because belief is a condition of activity, activity must be a condition of belief. To strive after an end is to strive after the means necessary for its attainment. Hence in striving after an end, we strive after the belief which alone makes action with a view to that end a psychological possibility. Thus practical and theoretical needs play an essential part in determining what we shall and shall not believe . . . in both cases the mind presses forward towards its mark as best it may, shaping those beliefs, and clinging to those beliefs, which are most helpful to it, and passing by those alternatives which would hamper and paralyze its activity.

"The activity which is concerned with the increase of knowledge is in order of development subsequent to the activity which directly pursues practical ends. . . .

"Let us now turn to the other side of the question. Belief is not only conditioned by mental activity, but also involves restriction of mental activity. Objective coercion is of the very essence of belief. Whatever influence subjective needs as such may have in determining belief, they can never be the sole factor. In framing a belief, we endeavour to represent real existence as it is in its own nature, independently of our own individual consciousness. . . .

". . . Belief depends on subjective tendencies, just because these tendencies cannot work themselves out without it. Ends can only be realized by the use of means; but in order to use

[2] "Belief as a Derived Emotion."

means we must have some belief in their efficacy; hence the impulse to pursue an end is also an impulse to form beliefs which will make action for the attainment of the end possible. But it is not within the range of our arbitrary selection to determine *what* means will lead up to a given end, and what will not. This depends on the nature of the real world in which we live. There must therefore in the framing of a belief be always some endeavour to conform to conditions other than, and independent of, our own subjective tendencies. Our inability to attain ends otherwise than through certain means constitutes a restriction of mental activity within more or less definite channels. . . .

"There are, then, two factors which co-operate in the formation of belief,—one subjective, and the other objective. Neither of these factors is sufficient by itself; both must be operative. But their relative importance may vary greatly. The keen urgency of practical needs may make it necessary to come to a decision where objective data are scanty. . . . So where there is a practical need to form a belief, because indecision would paralyze activity, the mind must rest on whatever objective indications or suggestions it can find, however slight these may be. . . .

"The influence of the subjective factor is the more prominent and dominant, the more primitive is psychical development in general. Primitive beliefs are nearly all relevant to the narrow circle of immediate practical interests within which the activities of the savage are confined. Wherever these interests are involved, they take shape in a body of belief often resting on what appear to us extremely frail objective foundations. . . . Thus in neglecting whatever does not obviously relate to immediately engrossing needs, the primitive mind must neglect much which is really relevant to them. Hence, in the formation of belief, data of the utmost importance will be ignored because their relevancy is hidden and cannot be made apparent without patient mental effort. Thus the narrower is the circle of interests, the greater is the predominance of the subjective factor, because the mind is blind to objective data which do not obviously connect themselves with its immediate aims and tendencies.

"Besides constituting the impelling motives for the formation of belief, the subjective factor also contributes to determine the nature of the beliefs which are formed. When a negative judgment would paralyze activity, the active tendency is a force arrayed on the side of the positive judgment, and *vice versa*. If a certain ideally represented combination presents itself as the only condition, or the most favorable condition, of attaining a certain end, the active tendency towards this end is of itself a tendency to believe in the ideally represented combination. If denial of this is tantamount to sacrificing a cherished aim, the whole strength of desire helps to enforce the affirmative side. Thus persons of vigorous and courageous temperament are apt to believe what they wish to believe . . . but we must not push this view too far. Where the general mental attitude is one of fear, or timidity, or gloomy suspicion, it does not hold good. Fear or timidity or gloomy suspicion favours belief in disagreeable alternatives. Where the tendency is not to face and fight difficulties and dangers, but to evade and escape them, action will be most effectively guided by taking the most unfavorable view of the circumstances. Even if an alarm is false, it is better to be on the safe side. There is much in the religious superstitions of savages which shows manifest traces of this influence of fear upon belief.

"The words 'casual' and 'irrelevant' imply that a systematic view of objective relations has already been formed, and that this system excludes the connection of things or events suggested by the association which is called irrelevant and casual. . . .

"One main reason why the subjective factor is more dominant in primitive thought is that the preformed body of belief is comparatively small in extent and imperfectly organized. A body of belief is more fully organized in proportion as the denial of this or that combination of ideas which enters into its composition involves a greater and more destructive alteration in the whole system. Savage beliefs are not woven into a unified whole to nearly the same extent as civilized beliefs; hence the influence of the objective factor is smaller. For the influence of pre-established convictions in determining the credibility or incredibility of new suggestions is in its nature objec-

tive. However the old beliefs have been formed, and whether they are true or false, they are affirmations or denials of real existence. Whatever is rejected because of its inconsistency with them, and whatever is accepted because its denial would be inconsistent with them, is accepted or rejected because it is felt to be implied in or excluded by the constitution of the real world. Thus the influence of the objective factor develops as the general body of belief grows in extent and becomes more highly systematized.

"In this process, when it is carried far enough, truth must be the gainer; for error cannot ultimately be made self-consistent. But in relatively early stages of the process the result is to a large extent of an opposite kind. Beliefs shaped in ignorance, under the pressing urgency of practical needs, help to produce new beliefs, and give rise to an organized system of error, so that the united force of the whole resists interference with any part of it."[3]

There is little doubt that the two great principles of belief-engenderment which I have pointed to, the emotional and the rational, are implicit respectively in Mr. Stout's subjective and objective factors, or perhaps I should say that the latter are implicit in the former. Indeed, Stout describes a certain aspect of the functioning of the great principles concerned, but he fails to reach the fundamentals, for he gives no adequate account of the motivation which urges activity in the objective acquisition of belief. It is true that he speaks of a theoretical interest, but what is the origin and development of the latter?

Concerning the subjective factor in belief-engenderment, it would seem offhand as if Stout, connecting belief exclusively with the means to an end, fails to recognize the fact that the (EO)-relation-to-satisfy-a-need, and the object of the latter relation are themselves eminent objects of belief. This, however, is not a severe criticism, for its validity depends upon how we define the goal-object of a striving—and here various alternatives are possible. The goal of food-hunger need not be identified with the savory meal—as McDougall claims—it might rather be regarded ultimately as the satisfaction of the hunger-need. Both the realization of the (EO)-relation and

[3] *A Manual of Psychology,* pp. 674-681.

the object of this relation will then become means to the latter end. Analogously, the goal-object of fear would be neither the bully nor the shelter, but rather the escape from the former—the shelter and the relation between the self and the shelter implied in reaching the latter becoming means to the ultimate end, removal of danger. Thus considered, the goals and means of the instincts will be interpretable as objects of belief in the terms of Stout's theory—with the understanding, however, that the belief in the reality of the (EO)-relation as a means of satisfying a need is acquired in the course of evolutionary, racial progress and not in the individual life-course.

It is of singular interest that, if the goal of an instinct is understood in the way suggested above, the self, participating in the realization of the ego-object-relation-to-satisfy-the-need of any one impulse, logically becomes the means to all ends and, consequently, according to Stout's theory, will appear as the most eminently real of all realities, which no doubt is true, and concerning which Stout himself in one passage says: "There are some objects which we cannot apprehend without at the same time affirming them. One of these is the self. I cannot think of my own existence, in so far as my existence consists in being conscious, without at the same time believing in it. . . ."[4]

Concerning the objective factor in belief-engenderment, Stout implies sufficiently that it is determined by and dependent upon a consideration of object-object relations in the broadest sense possible. In dealing with the latter, then, he is again describing a certain aspect of the functioning of the second great principle of belief-engenderment, notably the rational principle. But, although he speaks about the activity and the theoretical interest underlying the objective acquisition of knowledge and belief, he fails to derive this activity and this interest from any unit of motivation. Perhaps, though, his statement that *eo ipso,* the desire for an end is the desire for its means, is meant to imply that he thinks the theoretical interest might be induced by any one special impulse—a view, I judge, that is implicitly ruled out by McDougall's theory of tastes.[5] I myself have pointed to the fatal logical objection against the

[4] *Analytic Psychology,* I, 112. [5] *The Energies of Men,* chap. xv.

latter, that is, against deriving the rational impulse, or, as Stout calls it, "the theoretical interest" from any one of the special impulses or instincts.

To illustrate the harmonious enclosure of Stout's view in my own, let us consider what he writes further about the belief of the savage:

"The serious beliefs of the savage appear to the civilized man like a wild play of fancy. . . . It seems to him as if savages believed whatever came into their heads. . . . Modern anthropology has, however, shown that their madness is full of method. The root of the matter is that they must make themselves at home in the world somehow. They have a multitude of practical, and, to some extent, of theoretical needs, which cry out for satisfaction: and the material for satisfying them is limited. This limitation acts in two ways. In the first place, thought-combinations are possible for them which are impossible for us; because in us they would clash with whole systems of ideas which in the comparatively undeveloped consciousness of the savage have no existence. In the second place, the limitation of their material limits their choice of alternatives. They have to follow out certain lines of mental activity, because no others present themselves. Belief is that by which we live; and, since the savage must live as he can, so he must believe as he can. . . . Unacquainted with the modes of natural causation as revealed to civilized science, his mind adapts itself to the mysteries of nature in the only way it can—by representing natural agencies as analogous to those with which he is familiar, *viz.*, those of human beings. Hence his animism and anthropomorphism. It is under the conditions of savage life that we meet with the best, if not the only, examples of that curious fallacy described by Hume—the confusion of subjective with objective necessity. Any association between A and B through which the idea of A calls up the idea of B, leads to a belief in a causal relation between them, or at least leads the existence of A to be regarded as forerunning or indicating the existence of B. The practices of magic supply a vast variety of examples. There is, or was, a superstititon among sailors that whistling at sea will raise a 'whistling' gale: to melt the waxen image of a man is to produce his death: to destroy his footprints is to spoil his journey

or otherwise hinder him. The clothes a person has worn, or the cuttings of his hairs and nails, are supposed to be in mysterious sympathy with himself, so that he can be injured by their means. . . . The destruction of a looking-glass is a sign of death, for it suggests the destruction of the person whose images have been reflected in it. . . ."[6]

In the terms of my hypothesis the interpretation of the savage belief would be briefly as follows: The primitive man, due primarily to deficient heredity and, then, to the fair simplicity of his environment, only develops inferior rational capacity. The primordial impulse of curiosity, in his case, operates on a very primitive plane, yielding efficiently simple unlikes—the savage's power of sensory discrimination is frequently superior to the civilized man's—but failing to mature to the level of comprehension of more complex relations, particularly abstract ones. As a result of this, even in the adult savage, there obtains only a very slight correction of naïve, emotionally induced beliefs, by rational process, or by object-object consideration in a broad sense. Accordingly, the latter beliefs will remain the dominating ones, and, in so far as they are corrected, they will be corrected by inadequate rational process. The savage, due to low level evolution, finds himself chronically in essentially the same condition into which, as we shall see shortly, the manic-depressive patient is thrown by acute disease.

[6] *Analytic Psychology,* II, 258-260.

CHAPTER VII

Wisdom of the Ages: on Belief-Engenderment

> . . . our fundamental ways of thinking about things are discoveries of exceedingly remote ancestors, which have been able to preserve themselves throughout the experience of all subsequent time.
>
> William James, *Pragmatism,* Lecture V: Pragmatism and Common Sense.

DURING A number of years, I have been collecting sayings upon the topic of belief by philosophers and literary people of all times. In the present chapter I shall submit a selection of such sayings, bearing particularly upon the question of belief-engenderment. As shall become evident from my quotations, the two great principles of belief-engenderment, which I have discussed and tentatively explained, have been recognized explicitly or implicitly by innumerable writers, contemporary and of bygone ages.

My selection of quotations has been divided into six groups: (1) direct statements to the effect that beliefs are determined by desire, (2) statements indirectly implying the same state of affairs, (3) statements concerning the antagonism of desire and reason in guiding mankind, (4) direct statements to the effect that reasoning establishes truth, (5) statements indirectly implying that reasoning consists in the consideration of things in their universal relation, and (6) statements concerning the rôle of curiosity in man's acquisition of knowledge.

Only a few comments will be needed upon each of these six groups. The passages quoted will speak for themselves.

The first group of quotations contains blunt and forward statements to the effect that man is inclined to believe what he desires to be true, in other words, that beliefs are often emotionally determined.

Quod nimis miseri volunt, hoc facile credunt (Seneca, *Hercules Furens,* 1. 313).

Man prefers to believe what he prefers to be true (Francis Bacon, *Aphorisms,* No. 49).

With how much ease believe we what we wish! (Dryden, *All for Love,* Act IV, sc. 1).

What ardently we wish, we soon believe (Young, *Night Thoughts*: Night VII, l. 1233).

Opinion is ultimately determined by the feelings and not by the intellect (Herbert Spencer, *Social Statics,* Pt. III, Ch. 30, sec. 8).

Though the remaining two quotations indicate man's disinclination to believe anything that is subjectively painful to acknowledge, they imply as distinctly as the earlier ones the principle of emotional engenderment of belief.

Tarde, quae credita laedunt, credimus (Ovid, *Heroides.* Epis. II, l. 9).

It is natural to man to indulge in the illusions of hope. We are apt to shut our eyes against a painful truth, and listen to the song of that siren, till she transforms us into beasts (Patrick Henry, Speech, Virginia House of Delegates, March 23, 1775).

The following second group of quotations contains statements which indirectly and more distantly than the first imply the principle of emotional belief-engenderment. Here, many times, you have to read between the lines the implication referred to; however, the latter is sufficiently evident to make me confident that none of my readers shall accuse me of wish-determined false interpretation.

Hope is the parent of faith (C. A. Bartol, *Radical Problems*: Hope).

> Confiding tho' confounded; hoping on,
> Untaught by trial, inconvinc'd by proof,
> And ever looking for the never-seen.
> (Young, *Night Thoughts,* Night VIII, l. 126).
> He that complies against his will,
> Is of his own opinion still,
> Which he may adhere to, yet disown,
> For reasons to himself best known.
> (Butler, *Hudibras,* Pt. III, canto III, l. 547.)

Die Welt will betrogen sein (German Proverb).

Mundus vult decipi (Sebastian Franck, *Paradoxi Ducenta Octoginta,* No. 238).

If the world will be gulled, let it be gulled (Robert Burton, *Anatomy of Melancholy.* Pt. III, sec. IV, mem. 1, subs. 2).

Rob the average man of his life-illusion, and you rob him of his happiness at the same stroke (Henrik Ibsen, *The Wild Duck,* Act V).

Omnis homines qui de rebus dubiis consultant, ab odio, amicitia, ira atque misericordia vacuos esse decet (Sallust, *Catilina.* Ch. II, sec. i).

Aliena ut melius videant et dijudicent, quam sua (Terence, *Heauton Timoroumenos,* Act III, 1. 94).

Nulla manus, belli mutato judice, pura est (Lucan, *De Bello Civili,* Bk. VII, 1. 263).

> 'Tis with our judgments as our watches, none
> Go just alike, yet each believes his own.
> Pope, *Essay on Criticism,* Pt. I, 1. 9.)

Men's judgments sway on that side fortune leans (George Chapman, *Widow's Tears*).

It is in vain to find fault with those arts of deceiving wherein men find pleasure to be deceived (John Locke, *Human Understanding,* Bk. III, Ch. 10, sec. 34).

Non mancano pretesti quando si vuole (Goldoni, *La Villeggiatura,* Act I, sc. 12).

Wir betrügen und schmeicheln niemanden durch so feine Kunstgriffe als uns selbst (Schopenhauer, *Die Welt als Wille,* Bk. I, 350).

The arch-flatterer with whom all the petty flatterers have intelligence is a man's self (Plutarch, *De Adulatio et Amico,* quoted by Bacon, *Essay*: Of Love).

> But when I tell him he hates flatterers,
> He says he does, being then most flattered.
> (Shakespeare, *Julius Caesar,* Act II, sc. 1, 1. 208.)

A great fear . . . is the parent of superstition; but a discrete and well-guided fear produced religion (Jeremy Taylor, *Holy Living,* p. 317).

I am, in plainer words, a bundle of prejudices—made up of likings and dislikings (Charles Lamb *Essays of Elia*: Imperfect Sympathies).

> As is your sort of mind,
> So is your sort of search: you'll find
> What you desire.
> (Robert Browning, *Easterday,* Pt. VII, 1. 3).

As the forehead of Man grows broader, so do his creeds;
And his gods they are shaped in his image, and mirror his needs;
And he clothes them with thunders and beauty, he clothes them with music and fire;
Seeing not, as he bows to their altars, that he worships his own desire. . . .

(Don Marquis, *The God-Maker,* Man.)

J'aime la vérité. Je crois que l'humanité en a besoin; mais, certes, elle a plus grand besoin encore du mensonge qui la flatte, la console, lui donne des espérances infinies (Anatole France, *La Vie en Fleur*).

Truth, after all, wears a different face to everybody, and it would be too tedious to wait till all were agreed. She is said to lie at the bottom of a well, for the very reason, perhaps, that whoever looks down in search of her sees his own image at the bottom, and is persuaded not only that he has seen the Goddess, but that she is far better-looking than he had imagined (J. R. Lowell, *Democracy*).

The third group of quotations contains statements emphasizing the antithesis between, on the one hand, reason, and, on the other hand, desire and faith. All of these statements, I think, implicitly express the reality of the two principles of belief-engenderment.

Reason is the triumph of the intellect, faith of the heart (James Schouler, *History of the United States,* II).

We may take Fancy for a companion, but must follow Reason as our guide (Samuel Johnson, *Letter to Boswell,* 1774).

All power of fancy over reason is a degree of insanity (Samuel Johnson, *Rasselas*).

Fides non habet meritum ubi humana ratio praebet experimentum (St. Gregory, *Homilies,* No. 40).

The way to see by Faith is to shut the Eye of Reason (Benjamin Franklin, *Poor Richard,* 1758).

Between craft and credulity, the voice of reason is stifled (Edmund Burke, *Letter to the Sheriffs of Bristol*).

What extravagancy is not man capable of entertaining, when once his shackled reason is lead in triumph by fancy and prejudice (Lord Chesterfield, *Letter,* Sept. 27, 1748).

Reason, which ought always to direct mankind, seldom does;

but passions and weaknesses commonly usurp its seat, and rule in its stead (Lord Chesterfield, *Letter,* Feb. 15, 1754).

Surely investigation is better than unthinking faith. Surely reason is a better guide than fear (R. G. Ingersoll, *The Liberty of Man, Woman, and Child*).

Science is the great antidote to the poison of enthusiasm and superstition (Adam Smith, *The Wealth of Nations,* Bk. V, Pt. 3, sec. 3).

Do not clutch at sensual sweetness until it is ripe on the slow tree of cause and effect (Emerson, *Essays,* First Series: Prudence).

As men's prayers are a disease of the will, so are their creeds a disease of the intellect (Emerson, *Essays,* First Series: Self-Reliance).

Ignorance and superstition ever bear a close, and even a mathematical, relation to each other (J. Fenimore Cooper, *Jack Tier,* Ch. 13).

He that knows nothing doubts nothing (George Herbert, *Jacula Prodentum*).

The average man believes a thing first, and then searches for proof to bolster his opinion (Elbert Hubbard, *The Philistine,* XI, 36).

> La parfaite raison fuit toute extrémité,
> Et veut que l'on soi sage avec sobriété.
> (Moliére, *Le Misanthrope,* Act I, sc. 1, l. 151.)

The fourth group in my selection consists of quotations, praising reason as the sole arbiter of life.

Lumen siccum optima anima (Heraclitus, quoted by Bacon, who explains it to mean, a mind "not steeped and infused in the humours of the affections").

Augurium ratio est, et conjecture futuri: Hac divinavi notitiamque tuli (Ovid, *Tristia,* Bk. I, eleg. 9, l. 51).

Si vis omnia tibi subicere, te subice rationi (Seneca, *Epistulae ad Lucilium,* Epis. 37, sec. 4).

Nihil potest esse diuturnum cui non subest ratio (Quintus Curtius Rufus, *De Rebus Gestis Alexandri Magni,* IV, 14, 19).

It is always right that a man should be able to render a reason for the faith that is within him.—Sydney Smith (Lady Holland, *Memoir,* I, 53).

Reason is Life's sole arbiter, the magic Labyrinth's single clue (Sir Richard Burton, *Kasîdah,* Pt. VII, st. 22).

Every man's reason is every man's oracle (Lord Bolingbroke, *On the True Use of Retirement and Study,* Letter II).

All the tools with which mankind works upon its fate are dull, but the sharpest among them is the reason (Carl Van Doren, *Many Minds,* p. 209).

The quotations of the fifth group support the proposition that the rational consideration of things is a consideration of these in their relation to each other and to the universe at large.

By a tranquil mind I mean nothing else than a mind well ordered (Marcus Aurelius, *Meditations,* Bk. IV, sec. 3).

When a man's knowledge is not in order, the more of it he has the greater will be his confusion (Herbert Spencer, *The Study of Sociology,* Ch. 15).

Science is organised knowledge (Herbert Spencer, *Education,* Ch. 2).

I take it that "order" and "organisation" in these three quotations stand for inter-relation and integration of items of knowledge. Understood in this way, they imply mental structure founded by rational process or by the contemplation of object-object relations.

> Give every man thine ear, but few thy voice;
> Take each man's censure, but reserve thy judgment.
> (Shakespeare, *Hamlet,* Act I, sc. 3, l. 68.)

> Say first, of God above or Man below,
> What can we reason but from what we know?
> (Pope, *Essay on Man,* Epis. I, l. 17).

"I make it a rule only to believe what I understand," replied Proserpine (Benjamin Disraeli, *The Infernal Marriage,* Pt. I, Ch. 4).

A man, always studying one subject, will view the general affairs of the world through the coloured prism of his own atmosphere (Benjamin Disraeli, Speech, House of Commons, Feb. 15, 1849).

Nothing can justly be called an illusion which is a permanent and universal human experience (J. C. Powys, *The Complex Vision,* p. 352).

He only judges right, who weighs, compares . . . (Wordsworth, *Ecclesiastical Sonnets,* Pt. II, No. 1).

The sixth and last group of quotations in my selection comprises statements as to the rôle of curiosity (wonder) in the building up of an integrated system of knowledge—and belief.

Wonder is the feeling of a philosopher, and philosophy begins in wonder.—Socrates (Plato, *Theaetetus,* sec. 155).

L'admiration est fondement de toute philosophie (Montaigne, *Essays,* Bk. II, Ch. 11).

Wonder—which is the seed of knowledge (Francis Bacon, *Advancement of Learning*).

The man who cannot wonder, who does not habitually wonder . . . is but a pair of spectacles, behind which there is no Eye (Carlyle, *Sartor Resartus,* Bk. I, Ch. 10).

Men love to wonder and that is the seed of our science (Emerson, *Society and Solitude*: Work and Days).

I keep six honest serving-men
(They taught me all I knew):
Their names are What and Why and When
And How and Where and Who.
(Rudyard Kipling, *The Serving-Men.*)

CHAPTER VIII

True and False Belief

> Let me begin by reminding you of the fact that the possession of true thoughts means everywhere the possession of invaluable instruments of action. . . .
>
> William James, *Pragmatism,* Lecture VI: Pragmatism's Conception of Truth.

DELUSION is defined as false belief.

But what is true belief?

The awareness symbols in the terms of which we apprehend an assumable external world (*Ding an sich* or (X)) may only approximately correspond to the latter. For practical purposes, however, they seem to be sufficiently valid, for they guide us proficiently in our adaptive endeavor.[1] Leaving aside, then, such philosophical skepticism which questions ultimately the truth of all perceptual knowledge about things, we are still facing the problem as to the approximate validity of our beliefs in what may be called relational propositions. What is approximately true belief, and what is definitely false belief concerning the latter propositions?

Truth and falsity seem to be relative concepts of evaluation. What is considered true by one group of individuals, or by one nation, or by one race, may be considered false by another.

There are statements galore by scientific and literary men alike as to the relativity of truth. I shall quote a few passages from my collection of wisdom of the ages:

> Who dares
> To say that he alone has found the truth?
> (Longfellow, *John Endicott,* Act II, sc. 3.)

Ce qui est vrai à la lampe n'est pas toujours vrai au soleil (Joubert, *Pensées,* No. 152).

We see the sun, the moon and the stars revolving, as it seems to us, round us. That is false. We feel that the earth is motion-

[1] In turn, the language symbols with which we denominate these awareness symbols, are themselves abstractions and do only approximately indicate the psychological objects they are designed to stand for; yet for the practical purposes of social intercourse even these seem to serve with fair efficacy.

less. That is false, too. We see the sun rise above the horizon. It is beneath us. We touch what we think a solid body. There is no such thing (Camille Flammarion, *The Unknown,* Ch. I).

How many things served us yesterday for articles of faith, which to-day are fables to us! (Montaigne, *Essays,* Bk. I, Ch. 26).

It is the customary fate of new truths to begin as heresies and to end as superstitions (T. H. Huxley, *The Coming of Age of the Origin of Species*).

What everybody echoes as true today, may turn out to be falsehood tomorrow, mere smoke of opinion (H. D. Thoreau, *Walden,* Ch. I).

The infidels of one age have been the aureoled saints of the next. The destroyers of the old are the creators of the new (R. G. Ingersoll, *The Great Infidels*).

> From the death of the old the new proceeds,
> And the life of truth from the rot of creeds.
> (Whittier, *The Preacher.* St. 5.)
>
> Falsehoods which we spurn to-day
> Were the truths of long ago.
> (Whittier, *Calef in Boston.* St. 4.)
>
> For, dear me, why abandon a belief
> Merely because it ceases to be true?
> Cling to it long enough, and not a doubt
> It will turn true again, for so it goes.
> Most of the change we think we see in life
> Is due to truths being in and out of favour.
> (E. A. Robinson, *The Black Cottage.*)

"The serious beliefs of the savage," writes G. F. Stout, "appear to the civilized man like a wild play of fancy; and it is difficult for him to realize that for any mind they can be real convictions. It seems to him as if savages believed whatever came into their heads, and that what to him are vagaries of imagination are to them facts. . . . Unacquainted with the modes of natural causation as revealed to civilized science, his [the savage's] mind adapts itself to the mysteries of nature in the only way it can—by representing natural agencies as analogous to those with which he is familiar, viz., those of human beings. Hence his animism and anthropomorphism. . . ."[2]

[2] *Analytic Psychology,* II, 258-259.

If, in accordance with Stout's statement, a savage of a primitive race tells his friends that his dead father has come to him during his sleep in order to inform him where the best fishing in the river is to be found, they will accept his story without any hesitancy, without any signs of doubt, fully convinced of its truth, while a group of civilized Occidentals will reject it, knowing that the savage is deluded in that he has mistaken a dream image for reality. If, on the other hand, Sir Oliver Lodge reports to us that he has received a message through a medium from a deceased relative, there will be perhaps a majority of Occidentals who will maintain that he is deluded, but there will also be a minority who will accept his communication with conviction of its foundation in reality.

As the individual, or the minority of individuals, sometimes anticipates truths which are still pronounced delusions by the major group, thus bringing about serious conflict with the latter, it happens that what appears a delusion today may come to seem a reality a hundred years from now. The history of science is rich in such instances, this again indicating the relativity of truth and falsehood of human beliefs.

William James, of psychological writers known to me, has stated most pointedly the relativity of truth as conceived by man at large:

> . . . A dream-horse has wings; but then neither horse nor wings are the same with any horses or wings known to memory. That we can at any moment think of the same thing which at any former moment we thought of is the ultimate law of our intellectual constitution. But when we now think of it incompatibly with our other ways of thinking it, then we must choose which way to stand by, for we cannot continue to think in two contradictory ways at once. *The whole distinction of real and unreal, the whole psychology of belief, disbelief, and doubt, is thus grounded on two mental facts—first, that we are liable to think differently of the same; and second, that when we have done so, we can choose which way of thinking to adhere to and which to disregard.*
>
> The subjects adhered to become real subjects, the attributes adhered to real attributes, the existence adhered to real existence; whilst the subjects disregarded become imaginary subjects, the attributes disregarded erroneous attributes, and the existence dis-

regarded an existence in no man's land, in the limbo "where footless fancies dwell". . . .

Habitually and practically we do not *count* these disregarded things as existents at all. . . . To the genuinely philosophic mind, however, they still have existence, though not the same existence, as the real things. . . . The total world of which the philosophers must take account is thus composed of the realities *plus* the fancies and illusions. . . .

. . . Really there are more than two sub-universes of which we take account, some of us of this one, and others of that. . . .

The most important sub-universes commonly discriminated from each other and recognized by most of us as existing, each with its own special and separate style of existence, are the following:

(1) The world of sense, or of physical 'things' as we instinctively apprehend them, with such qualities as heat, color, and sound, and such 'forces' as life, chemical affinity, gravity, electricity, all existing as such within or on the surface of the things.

(2) The world of science, or of physical things as the learned conceive them, with secondary qualities and 'forces' (in the popular sense) excluded, and nothing real but solids and fluids and their 'laws' (i.e., customs) of motion.

(3) The world of ideal relations, or abstract truths believed or disbelieved by all, and expressed in logical, mathematical, metaphysical, ethical, or aesthetic propositions.

(4) The world of 'idols of the tribe,' illusions or prejudices common to the race. All educated people recognize these as forming one sub-universe. The motion of the sky round the earth, for example, belongs to this world. That motion is not a recognized item of any of the other worlds; but as an 'idol of the tribe' it really exists. For certain philosophers 'matter' exists only as an idol of the tribe, For science, the 'secondary qualities' of matter are but 'idols of the tribe.'

(5) The various supernatural worlds, the Christian heaven and hell, the world of the Hindoo mythology, the world of Swedenborg's *visa et audita,* etc. Each of these is a consistent system, with definite relations among its own parts. . . . The various worlds of deliberate fable may be ranked with these worlds of faith. . . .

(6) The various worlds of individual opinion, as numerous as men are.

(7) The worlds of sheer madness and vagary, also indefinitely numerous.

Every object we think of gets at last referred to one world or another of this or of some similar list. It settles into our belief as a common-sense object, a scientific object, an abstract object, a mythological object, an object of some one's mistaken conception, or a madman's object; and it reaches this state sometimes immediately, but often only after being hustled and bandied about amongst other objects until it finds some which will tolerate its presence and stand in relations to it which nothing contradicts. The molecules and ether-waves of the scientific world, for example, simply kick the object's, warmth and color out, they refuse to have any relations with them. But the world of 'idols of the tribe' stands ready to take them in. Just so the world of classic myth takes up the winged horse; the world of individual hallucination, the vision of the candle; the world of abstract truth, the proposition that justice is kingly, though no actual king be just. The various worlds themselves, however, appear (as aforesaid) to most men's minds in no very definitely conceived relation to each other, and our attention, when it turns to one, is apt to drop the others for the time being out of its account. Propositions concerning the different worlds are made from 'different points of view'; and in this more or less chaotic state the consciousness of most thinkers remains to the end. Each world *whilst it is attended to* is real after its own fashion; only the reality lapses with the attention.

Each thinker, however, has dominant habits of attention; and these *practically elect from among the various worlds some one to be for him the world of ultimate realities.* From this world's objects he does not appeal. Whatever positively contradicts them must get into another world or die. . . .[3]

In spite of the relativity of truth, there are certain things upon which, in a fair measure, civilized and educated human adults agree. Offhand we would feel inclined to think that these must be the "realities" established by rational rather than emotional process, for in comparison the former is objective, the latter subjective and, accordingly, prone to reflect more of individual prejudice. This, in turn, might tempt us to pro-

[3] *Principles of Psychology,* II, 290-294.

claim that a delusion—whether it is individual or group-belief —is a belief which is incompatible with the scientific knowledge of things, the latter knowledge being most objective, having been established predominantly by rational consideration of object-object relations. Such point of view may appear offhand very respectable; yet we should not forget that it is based upon a faith in scientific procedure which may be undue and one-sided. We should remember also that, even within scientific groups, opinions may differ as to what is or is not scientifically substantiated. What is true in Jena is only a poor jest in Heidelberg.

However, there is much to be said in favor of the rational consideration of things in their universal relation as a test of their truth. Surely, it is the compatibility of a proposition with a large body of tested knowledge that causes us to judge it true, while its incompatibility with the latter compels us to the conviction that it is false. Consider, for instance, the following proposition made by Herbert Spencer and discussed by G. F. Stout as follows:

". . . We cannot believe that a cannon-ball fired from England can reach America; but we may, with comparative ease, mentally represent it as doing so. . . . In thinking of the flight of the cannon-ball from England to America, we simply picture the ball in motion, and the motion as continued until a distant point is reached. So far as we can represent it, it is quite credible. We believe that a cannon-ball can move, we believe that there are conditions under which it might move over a very great distance. Where disbelief comes in, is in connecting the flight to America with the actual conditions under which the ball was discharged—the size of the gun, the strength of the explosion, together with our knowledge of the strength of materials, and of mechanical science in general. In so far as these conditions are prominently before consciousness, the flight to America becomes unthinkable, i.e., it is unthinkable precisely in so far as it is incredible. We are enabled to represent the flight by dismissing from consciousness apperceptive systems which would hinder us from doing so. But these very systems are those which condition the belief. . . ."[4]

[4] *Analytic Psychology,* II, 242-243.

Or take the indirect instance when, in testing the validity of a proposition, we investigate the possibility of its opposite, the endeavor which G. F. Stout describes in general terms in the following manner:

". . . The firmness of the connection A B, is tested by an attempt to frame the thought of an incompatible connection A C. This mental attitude is characteristic of the search for truth for its own sake. The attempt is only made with the view of finding if and how far it will succeed. It is only a means to an end, and the end is attained when the attempt itself is defeated. The whole process is like testing a foothold in climbing, to see whether it will bear us or not; the more resistance the ground makes to our pressure, the more ready we are to trust ourselves to it. So in climbing up the series of means towards an end, we may test the stability of the several links by a mental attempt to dissolve their connection. In proportion as the attempt proves abortive, the more we are furthered in our progress. On the other hand, the more easily we find it possible to realize in thought opposite alternatives, we become less confident and less energetic in our pursuit of the object along this special line.

"In the case of complete doubt, it is equally easy to frame the thought A B, and its opposing alternative A C. In the ideal case of complete assurance, it is impossible to frame the thought A B; so that we are absolutely constrained to think A C. Between complete doubt and complete assurance there are all manners of gradations, proportioned to the difficulty of mentally substituting A C for A B. . . ."[5]

It is perfectly evident that when we carry out an investigation of this kind, the possibility or the impossibility of the opposite to A B, is determined by its compatibility or incompatibility, not with A B, but with a large mass of other knowledge with which A C is compared and to which it is related. The case is the same as the one of the cannon ball, the only difference being that, in the former instance, we relate the original proposition directly with knowledge at large, while, in the latter instance, we use the indirect method of investigating the validity of the logical opposite of our primary proposition.

[5] *Ibid.*, II, 240-241.

Or take the instance of testing a memory detail, given by McDougall, and already quoted on an earlier page of the present work:

". . . Consider how your belief in the reality of some past action of yours is founded, if, say in a court of law, your testimony to it is required and challenged. The question is raised—Did you, or did you not, lock the door on leaving your apartment? The ground of your belief in the reality of your locking the door is not the vividness with which you can picture yourself doing it; it is rather the fact that, as you depict your exit on that occasion, the imagination of the act hangs obstinately together with the rest of the sequence of behavior which you depict. If you attempt to excise it from the sequence, you remain aware of the gap which you have made. . . ."[6]

No doubt, here again the compatibility of the individual proposition "I closed the door" with a more extended state of affairs, with a larger mass of memories, becomes the criterion of its correctness.

Reasoning is a process that proceeds from premises. Without the latter it would not be able to progress, for it would be devoid of guidance, devoid of any means by which to discover compatibility and incompatibility of events appearing in its own course of advance. These premises, for the time being, are considered theorems or tentative truths.

Reasoning is only one form of mental activity. All mental activity, however, has in common this characteristic that it is not able to advance towards its goal except upon the implicit or explicit supposition of certain theorems (beliefs or confidences) which ultimately guide its progress. Are these theorems or premises truths in a philosophical sense? William James would answer the latter question as follows: they are truths in so far as they are inevitable and "invaluable instruments of action."

James' statement that "the possession of true thoughts means everywhere the possession of invaluable instruments of action" is probably the broadest formulation of the pragmatic definition of truth:

[6] *Outline of Psychology*, p. 374.

Truth, as any dictionary will tell you, is a property of certain of our ideas. It means their 'agreement,' as falsity means their 'disagreement,' with 'reality'. . . .

How will the truth be realized? . . .

True ideas are those that we can assimilate, validate, corroborate and verify. False ideas are those that we cannot. . . .

Truth *happens* to an idea. It *becomes* true, is *made* true by events. Its verity *is* in fact an event, a process: the process namely of its verifying itself, its veri-*fication*. Its validity is the process of its valid-*ation*.

But what do the words verification and validation themselves . . . mean? They . . . signify certain practical consequences of the verified and validated idea . . . these consequences . . . lead us . . . through the acts and other ideas which they instigate, into or up to, or towards, other parts of experience with which we feel all the while—such feeling being among our potentialities—that the original ideas remain in agreement. The connections and transitions come to us from point to point as being progressive, harmonious, satisfactory. This function of agreeable leading is what we mean by an idea's verification. . . .

We live in a world of realities that can be infinitely useful or infinitely harmful. Ideas that tell us which of them to expect count as the true ideas in all this primary sphere of verification. . . .

. . . truth . . . [is] something essentially bound up with the way in which one moment in our experience may lead us towards other moments which it will be worth while to have been led to.

Following our mental image of a house along the cow-path, we actually come to see the house; we get the image's full verification. *Such simply and fully verified leadings are certainly the originals and prototypes of the truth-process.* . . .

Indirect as well as direct verifications pass muster. Where circumstantial evidence is sufficient, we can go without eye-witnessing. . . . Verifi*ability* . . . is as good as verification. For one truth-process completed there are a million in our lives that function in this state of nascency. They turn us *towards* direct verification; lead us into the *surroundings* of the objects they envisage; and then, if everything runs on harmoniously, we are so sure that verification is possible that we omit it, and are usually justified by all that happens.

Truth lives, in fact, for the most part on a credit system. Our thoughts and beliefs 'pass,' so long as nothing challenges

them. . . . But this all points to direct face-to-face verifications somewhere, without which the fabric of truth collapses. . . . You accept my verification of one thing, I yours of another. We trade on each other's truth. But beliefs verified concretely by *somebody* are the posts of the whole superstructure.

Another great reason—beside economy of time—for waiving complete verification . . . is that all things exist in kinds and not singly. . . . So that when we have once directly verified our ideas about one specimen of a kind, we consider ourselves free to apply them to other specimens without verification. . . .

Indirectly or only potentially verifying processes may thus be true as well as full verification-processes. . . .

Relations among purely mental ideas form another sphere where true and false beliefs obtain. . . .

In this realm of mental relations, truth again is an affair of leading. We relate one abstract idea with another, framing in the end great systems of logical and mathematical truth. . . .

Our ready-made ideal framework for all sorts of possible objects follows from the very structure of our thinking. We can no more play fast and loose with these abstract relations than we can do with our sense-experience. They coerce us; we must treat them consistently, whether or not we like the results. . . .

Between the coercions of the sensible order and those of the ideal order, our mind is thus wedged tightly. Our ideas must agree with realities, be such realities concrete or abstract, be they facts or be they principles, under penalty of endless inconsistency and frustration. . . .

Realities mean, then, either concrete facts, or abstract kinds of thing and relations perceived intuitively between them. They furthermore and thirdly mean, as things that new ideas of ours must no less take account of, the whole body of other truths already in our possession. But what does 'agreement' with such threefold realities mean? . . .

To 'agree' in the widest sense with a reality *can only mean to be guided either straight up to it or into its surroundings, or to be put into such working touch with it as to handle either it or something connected with it better than if we disagreed.* Better either intellectually or pragmatically! And often agreement will only mean the negative fact that nothing contradictory from the quarter of that reality comes to interfere with the way in which our ideas guide us elsewhere. . . . The essential thing is the process of being guided. Any idea that helps us to *deal,* whether

practically or intellectually, with either the reality or its belongings, that doesn't entangle our progress in frustrations, that *fits,* in fact, and adapts our life to the reality's whole setting, will agree sufficiently to meet the requirement. It will hold true of that reality. . . .

Agreement thus turns out to be essentially an affair of leading—leading that is useful because it is into quarters that contain objects that are important. . . . The untrammelled flowing of the leading-process, its general freedom from clash and contradiction, passes for its indirect verification; but . . . in the end and eventually, all true processes must lead to the face of directly verifying sensible experiences *somewhere,* which somebody's ideas have copied.

Such is the large loose way in which the pragmatist interprets the word agreement. He treats it altogether practically. He lets it cover any process of conduction from a present idea to a future terminus, provided only it runs prosperously. It is only thus that 'scientific' ideas, flying as they do beyond common sense, can be said to agree with their realities. . . .[7]

William James himself admits that his exposé of the pragmatic theory of truth is formulated only in a large, loose, and vague manner. McDougall, who, in a recent work, has clearly confessed himself to the pragmatic position regarding truth, carries on his argument in more specific terms:

It is here maintained that the correspondence theory of truth is the valid theory. It states the only intelligible and tenable meaning of the word 'true'. . . Yet the critics of pragmatism commonly attack the principle on the ground that it rejects the corespondence theory of truth, alleging that it sets up a different theory of truth, proposes to give a new and quite different meaning to the word 'true'. . . .

The pragmatic principle does not pretend to assert a new theory of truth. It accepts the correspondence theory of truth; but, recognizing that in only the most simple instances, as when we state in words observations which involve only simple counting of well defined entities . . . do our verbal descriptions correspond closely and adequately to the facts described, it raises, not the question of the nature of true propositions, but *the question of the criterion we must apply* in seeking to ascertain whether a

[7] *Pragmatism,* Lecture VI.

proposition is true, whether it does or does not correspond to the facts described. . . .

This problem of the criterion of the truth of a proposition is commonly overlooked by the adverse critics of pragmatism. Yet it is the all-important problem of the theory of knowledge. It may seem to the reader at first sight that the answer is easy enough. A proposition raises in your mind an expectation or a question. With this in mind, you go to Nature and make the relevant observation . . . in so doing you find that the proposition does, or does not, correspond to the facts; and you call it, accordingly, true or untrue.

But suppose the proposition to be a little less simple, less easy to verify by simple and direct observation, even though it be perfectly concrete and specific, *e.g.*, 'This pebble is of quartz'. Again the proposition rouses in those who have some knowledge of quartz, who know something of the meaning of the word 'quartz', certain definite expectations or questions which can be put to the test of observation. Can you scratch it with your penknife? If so, it is not quartz. If you cannot, one expectation raised by the assertion is satisfied and *in so far* the proposition is verified.

In this case we begin to glimpse the meaning and function of hypothesis. On seeing the pebble you are uncertain of its nature. You put forward the surmise: It is perhaps quartz. And, if you desire to know whether this surmise, this hypothetical proposition, is true or corresponds, you must take some action beyond *simple* observation; you must put it to the test of *experimental* observation. With each experiment that satisfies an expectation founded in a knowledge of the meaning of the word 'quartz', your verification becomes stronger; and at some point of this process you stop, satisfied that your surmise was true. With the attainment of satisfaction of each expectation evoked by the proposition, your confidence in the truth of the proposition is raised to a higher power. . . .

All observation involves action, though this is more obviously true of experimental than of simple observation; and all action is motivated and expresses some purpose. . . . And the purpose of the action, which is the observation (simple or experimental), being to test some surmise or hypothesis, the conditions of observation are so chosen or arranged that the act of observation will achieve the foreseen result, the end proposed, the goal aimed at, intended and purposed, if the hypothetical description is true, *i.e.*, if it corresponds to the state of affairs in which our action

(our observation) intervenes. If, then, our act of observation directed by our hypothesis attains its goal, the satisfaction of our expectation, we regard the hypothesis as strengthened. . . .

In science, then, a truth is a true proposition; a true proposition is always the statement of an hypothesis which has been proved to *correspond* in some measure with the facts, has guided us to action which succeeds in satisfying the expectations raised by the proposition. The more of such expectations the proposition has raised and has satisfied through such guidance, the more confidence we may properly feel that it does correspond with the facts. When it has thus satisfied all the more obvious expectations, without failure in any case, we regard the hypothesis as a well established theory. And, if we are incautious, we may go on to claim that it expresses an absolute truth. But to do that is to overlook the indisputable fact that every verbal statement is inevitably abstract in some degree and therefore inadequate to the complexity and fullness of the concrete reality. . . .

Thus the pragmatic principle forbids us to believe that our descriptions and interpretations of events can ever be absolutely true, can ever correspond completely to them in their concrete reality. . . .

It is in relation to questions of historical truth that the validity of the pragmatic criterion meets the most obstinate opposition. The question becomes one of the validity of testimony, a purely psychological problem. . . .

What then is the criterion of truth in such cases, the cases of description of past events? Clearly there is no other criterion than the pragmatic one, difficult and unsatisfactory as the application of it may be. How am I to test the truth of your statement? I can make a psychological investigation and try to form an opinion of your trustworthiness as observer, rememberer, reporter; and I can look for effects which I may infer, rightly or wrongly, must have followed from the event recorded.

In both cases I am committed to a train of action directed to the attainment of such effects as I am led to expect by the hypothesis that you are speaking the truth. . . .

In actual practice we commonly meet the problem of historical truth as best we can (in so far as we do not accept such statement merely through 'suggestion'), by means of one or both of two expedients; we may multiply the sources of testimony and consider the historical statement to be more credible the more persons testify to it; and we may investigate the trustworthiness

of the persons concerned. . . . In conjunction the two methods may, in favourable instances, lead to a verdict of high probability. . . ."[8]

On an earlier page in this chapter, I have argued the point that compatibility of an individual proposition with tested knowledge at large is the eminent sign of its truth. I have also attempted to support my view by examples, more especially: (1) Stout's cannon-ball case, (2) his discussion of the testing of the validity of one proposition by investigating the possibility of its opposite, and (3) McDougall's exposé of the investigation of the validity of recollection of past events.

I shall now endeavor to support my standpoint further by attempting to show that the inter-mutual compatibility of propositions as a sign of their truth is actually implied in both the formulations of the pragmatic theory of truth quoted above.

It seems to be directly indicated in the following passage from William James' argument: ". . . verification and validation . . . signify certain practical consequences of the verified and validated idea . . . these consequences . . . lead us . . . through the acts and other ideas which they instigate, into or up to, or towards other parts of experience with which we feel all the while . . . that the original ideas remain in agreement. . . ." and later: "Our ideas must agree with realities, be such realities concrete or abstract, be they facts or be they principles, under penalty of endless inconsistency and frustration. . . . Realities . . . furthermore and thirdly mean, as things that new ideas of ours must . . . take account of, the whole body of other truths already in our possession. . . . The untrammelled flowing of the leading-process, its general freedom from clash and contradiction, passes for its indirect verification. . . ."

In McDougall's exposition, the implication suggested is not immediately evident. This is essentially because he develops his argument in close connection with a very simple case. McDougall states that verification of the proposition "this is quartz" is obtained when a certain number of experiments have satisfied (proved to be compatible with) a certain number of

[8] *The Frontiers of Psychology,* chap. ii.

expectations arising from our knowledge of the meaning of the word *quartz*. Here it would seem as if the truth of the proposition concerned is not depending upon its compatibility with knowledge at large, but merely upon its compatibility with our general knowledge of quartz. But it should be remembered that our general knowledge of quartz is not an isolated item of knowledge. As such, it would be meaningless. It is rather an item of knowledge in a setting, immediate and remote; this setting, in turn, having its broader setting and so forth, so that even the knowing of the specific object quartz becomes conditioned implicitly by its position in our total integrated system of knowledge. For, surely, the species of mineral known as quartz, once in history, must have been pragmatically tested as a mineral; and so must the type of thing called mineral once have been submitted to the pragmatic test which distinguished it from living matter, and so forth. What is here said about McDougall's exposition is equally valid in regard to Stout's cannon-ball case.

I am inclined to suspect, then, that, in claiming intermutual compatibility of propositions as the ultimate criterion of their validity, I merely state the pragmatic criterion in different terms. If I am correct in this surmise, it would imply that only propositions compatible with our knowledge at large can lead us smoothly and effectively towards valuable ends, that is, can satisfy the pragmatic test of verification. This implication would seem to be supported by a biological-philosophical line of argument. For if, as has inevitably to be assumed, the capacity to cognize the physical world (X) has evolved as an aid in adaptation, and if, consequently, our system of perceptual and conceptual symbols actually mirror—sufficiently for practical purposes of adaptation—the nature of that world, then it would seem evident that only such individual propositions which are compatible with the latter system of knowledge at large would be able to guide us properly in the reality denominated as (X).

The validity of the statement that only such individual propositions which are compatible with knowledge at large can become inevitable and "invaluable instruments of action," seems, furthermore, to be demonstrable on all planes of mental

function, from the one of simple perception and overt motion to the one of the highest mathematical reasoning.

If, when acted upon, the hypothetical proposition "this is the road to Rome" leads you to Florence, it becomes incompatible with the proposition "here I am in Florence." Then, you give it up as false in view of its contradiction of your well-established conviction "this is Florence"—a proposition, in this case, which is supported by your total knowledge of the latter city, your total recollection, from earlier visits, of its high-points and milieu: Il Duomo, the Campanile, Ponte Vecchio, the Arno Valley, or what not.

If, as sometimes happens, in scientific or mathematical reasoning you arrive at incompatible propositions (A is B; A is not B) there are only two alternative moves on your part that can help you out of your dilemma: (1) giving up one of the propositions with all the superstructure built upon it, or (2) postulating tentatively a mediator (M) which would resolve the contradition. This (M) is now a hypothetical truth that permits you to proceed. If it effectively promotes your continual progress towards valuable ends, William James would hold it verified as a truth.

In pre-scientific primitive thought, we observe the postulation of the mediator (M) whenever aboriginal man confronts the unknown or that which cannot be brought into comprehensible relation with the known. The (M) in these cases is a god or a demon of singular powers. Even such (M) permits the savage to progress, in that it removes or at least reduces the paralyzing fear that 'the unknown' is prone to call forth in the primitive mind.

In final support of my reinterpretation of the pragmatic criterion of truth as *inter-mutual compatibility of propositions,* let me again call upon William James himself.

After having explained his seven "sub-universes" of reality: (1) the world of senses, (2) the world of science, (3) the world of ideal relations, (4) the world of "idols of the tribe," (5) the supernatural worlds, (6) the worlds of individual opinion, and (7) the worlds of sheer madness, he writes (compare earlier page of this chapter):

"Every object we think of gets at last referred to one world or another of this or of some similar list . . . it reaches this state sometimes immediately, but often only after being hustled and bandied about amongst other objects until it finds some which will tolerate its presence and stand in relations to it which nothing contradicts. The molecules and ether-waves of the scientific world, for example, simply kick the object's warmth and color out, they refuse to have any relations with them. But the world of 'idols of the tribe' stands ready to take them in. Just so the world of classic myth takes up the winged horse; the world of individual hallucination, the vision of the candle; the world of abstract truth, the proposition that justice is kingly, though no actual king be just. The various worlds themselves, however, appear . . . to most men's minds in no very definitely conceived relation to each other, and our attention, when it turns to one, is apt to drop the others for the time being out of its account. Propositions concerning the different worlds are made from 'different points of view'. . . .

"Each thinker, however, has dominant habits of attention; and these *practically elect from among the various worlds some one to be for him the world of ultimate realities.* From this world's objects he does not appeal. Whatever positively contradicts them must get into another world or die. . . ."[9]

Here, if ever, the compatibility of each item of knowledge with the totality of knowledge within its 'sub-universe' of reality is claimed to be the criterion of its truth; *nota bene,* in the universe concerned.

It follows without comment that the pragmatic test of reality as interpreted above is a rational activity, that is, an activity incorporating as its essential feature the consideration of object-object relations; all its varieties ranging between the following two podes: (1) the consideration of the relation between a simple means and a simple end; and (2) the consideration of the relation between a complex individual proposition and knowledge of phenomenal relations at large.

According to this interpretation of pragmatic verification, any one novel psychological object, in order to become installed in our mind as a psychological reality, has to be considered in

[9] *Principles of Psychology,* II, 293-294.

its relation to other psychological objects and to knowledge at large. There is one psychological object that is beyond comprehensible relation to or comparison with anything else: God; and there is another group of psychological objects that are related—as means to ends—to all higher forms of human thinking: the laws of logic.

Is there then no pragmatic test of the reality of God? If there is one, it has to be contrived as follows: God has to be viewed as a means to an end—to an important end. Let us hypothetically say that the end to which God serves as a means is universal happiness. If, under this assumption, the consideration of the totality of human progress, including all we know of past history and of present human affairs, indicates that the belief in God has been an inevitable and invaluable instrument of happy progress of mankind, then, according to the pragmatic criterion of truth, God is a reality.

The laws of logic, being related to and instrumental in all higher human thinking process, are these among the most real of realities? I am inclined to reply in the affirmative. Yet I would emphasize that even these laws can only approximate truth, and that some of them perhaps are questionable, as has actually been propounded in the case of "the law of the excluded middle."

Evolution presumably creates inevitable and invaluable instruments of adaptive—and possibly creative—action. Among such instruments are racial memory and racial belief. I have earlier pointed to the immediate knowing of the (EO)-relation-to-satisfy-the-need of an instinct and to the confidence that the realization of the latter relation will satisfy the need, as conspicuous instances of racial memory and racial belief respectively. The confidence or belief referred to can, I suggest, be considered as having grown out of truly pragmatic testing, though not of testing performed by the individual but by the race.

We may assume that, periodically, in the progress of evolution, there have been transitory periods when instinctive dispositions have not been highly specified in their objects. These periods we may further assume coincide with the developmental transition from one well-defined species to another. They would be periods of severe struggle for life, for they would occur as the indirect result of important enduring change in the physical world

(X) to which the living beings, adapted to conditions antedating this change, would be bound to adjust themselves or to perish. During such periods, the (EO)-relations-to-satisfy-the-various-needs called up by events in the considerably modified physical continuum of an organism would not be known by the latter, and adaptation would have to proceed perhaps to a high degree by trial and error. Then, gradually through generations, the adequate (EO)-relations would be learned and re-learned with increasing facility; the experience of one generation always leaving to the following some disposition for easier re-learning. And, finally, the proper (EO)-relations in all their necessary aspects would become known by pure racial memory. Along with this development, due to progressively successful service as instruments of adaptation, these relations—by strict pragmatic principle—would become confirmed objects of belief or confidence. When that state would be reached we might say that the instinctive dispositions would have become perfected and that a new well-defined species would have evolved.

In view of the previous discussion, what becomes of the relativity of truth; the relativity in the sense that the conception of truth seems to vary from time-epoch to time-epoch and between race and race; the relativity that so many savants of bygone ages have taken delight in pointing out and which, of contemporary writers, William James propounds with such emphasis? William James himself has the answer in his 'magic bag.' Savage people believe differently from civilized people because they occupy different "sub-universes" of reality. As described by William James, they have a different complex of knowledge to which they refer individual propositions in testing the reality of the latter. And for exactly the same reason did the ancient Egyptians believe differently from us. Our reality is profoundly moulded in the terms of the "world of science"; the reality of savages and of the ancients, in the terms of the "world of the super-natural."

Which of these realities is the truest?

If it is a fact that the occidental white man of today has reached the top of presently conceivable advancement and civilization, then, his belief and his reality, the system of knowledge to which he refers any individual proposition in investigating its validity, is the truest of all realties known.

But is that a fact?

CHAPTER IX

Self-Deception of the Normal Man

> The easiest thing of all is to deceive one's self; for what a man wishes he generally believes to be true.
>
> Demosthenes, *Olynthiaca,* No. III, sec. 19.

IN THE FIRST two chapters of this work, I have tried to illustrate the function of the two important principles of belief-engenderment, the emotional and the rational, by following the appearance and disappearance of some immature beliefs of infancy and early youth which apparently are determined by the former principle and corrected by the latter. In the following three chapters, I shall endeavor to show how, in adulthood, after the rational processes have reached full maturity, under certain circumstances emotionally determined false beliefs are formed, and how this always coincides with a restriction or decay of the rational function. This will again directly bear out the rôle of the emotional principle and indirectly the rôle of the rational principle of belief-engenderment, and at the same time it will bring out with enhanced emphasis their mutually antagonistic function.

A white man belonging to our culture-group, occupying the same "sub-universe" of reality as we do, is supposed to share with us a number of important beliefs; in other words, he is supposed to test his beliefs by investigating their compatibility with the main system of knowledge generally accepted as valid by us. If he does not do this, that is, if he holds bizarre opinions utterly divergent from ours, we say that he is deluded. If he acts upon these opinions he is bound to go astray, to meet opposition on the part of his fellow-men, and thus his adjustment to his own social group becomes impaired. As a consequence, he may be declared "insane" and interned in a sanatorium.

Severe delusions of a fellow-man we easily recognize. They seem to us self-evidently false. This, no doubt, would be the case with that brotherhood of mental patients who claim

that they are all-powerful sons of God, not only in spirit but—mind you—also in flesh—like, for instance, a patient of my own who once wrote me the following letter:

Dear Sir: To you nothing is sacred, not even my relation to God. You must know my exact degree of intimacy, and nothing short of such knowledge will satisfy you that you incur no risk of being damned by setting me at liberty. God was in his pantry. He was standing behind a table with a white cloth. Upon the cloth were enough raw meats to stock a delicatessen store. Just as God was about to devour these savory refreshments, he saw me, and instinctively puckered his lips to be kissed, the food, untasted, forgotten, but . . . it was three days before I could make up my mind to respond, during all of which time God stood behind the table, famished with natural hunger, waiting for me to kiss him.

Yours very truly (Signature).

Sometimes false beliefs of a fellow-man are difficult to recognize. Such is the case when these beliefs only slightly diverge from the road of the probable. Such false beliefs should perhaps properly be called, not delusions, but rather 'self-deceptions', as the term *delusion* has too grave a significance to apply to aberration from which probably no living man or woman is completely exempt.

It is the psychology of these minor self-deceptions that we are to consider in this chapter.

True self-knowledge is oftentimes very painful, this being particularly the case whenever the objective consideration of oneself reveals inferiority or guilt. In such instances, urged by a desire to escape the agonizing feelings of inferiority or guilt, man is prone to resort to self-deception in order to hide from himself the painful feelings mentioned. As a result, he develops beliefs which, no doubt, are delusional but which subserve the self-protective prohibition of painful self-recognition. Such beliefs are, accordingly, wish-determined.

How does the rational function of man permit protective delusion-formation? The rational function unimpaired would not permit it. But the rational function, in such instances, suffers a deterioration. It becomes a mere pseudo-function, a caricature of its original respectable self. As such, it is known

as the process of rationalization. Superficially, rationalization seems to be a consideration of object-object relations, but it is restricted and crippled, for it selects and takes into account only those relations which, by direct error or by vigilance of logic, can be construed to support the basically wish-determined belief. It consists in a manipulation of evidence relative to the inferiority and guilt situations, aiming at a modification of the latter, a manipulation which, if successful, reduces the corresponding painful feelings respectively.

It is, however, interesting to note that, even when the rational process does not function soundly, rationalization enters in the formation of self-deceptive beliefs, for this brings out forcefully its general rôle in the development of beliefs of the adult human being. It is used, even then, though in a biased fashion, in order to camouflage the fact that the self-deception is indeed basically a most typical wish-determined product, a delusion moulded by desire.

In an article entitled "Repression and Rationalisation," I have dealt systematically with the various modes in which man, by the process of rationalization, might manipulate evidence in order to rid himself from a feeling of guilt. I shall in the remaining part of this chapter give only a few examples of such procedure, adding some instances in which the painful self-recognition prompting self-deception is feeling of inferiority. My cases, no doubt, will speak for themselves and require no individual comments, for they are illustrations of current events in the psychology of everyday life, events which are known to every normal man and woman, even to those who seriously attempt to face themselves with the utmost frankness and honesty.

Among my acquaintances of the past, I can recall two individuals who were slightly inferior in regard to the highest intellectual processes. More especially, they were incapable of thinking in general logical terms from premises. One of them was a neuro-psychiatrist—very good and well-renowned as such. He had succeeded, by rationalization, in making his deficiency as regards capacity of thinking synthetically in general terms an actual virtue. On innumerable occasions I watched him beating (figuratively though not literally) his

breast in pride and saying: "I am great and clever and wonderful; I think only in terms of cases!"

The second person, an acquaintance of long ago, was a psychologist. He was incapable of organizing his psychological knowledge under broad general hypotheses; at the same time it was an obsession with him to be independent, this preventing him from thinking psychologically in the terms of any one consistent doctrine of psychology. Accordingly, to his own satisfaction he had invented a cliché for the interpretation of each psychological phenomenon. But—alas—these clichés did not fit together into one continuous puzzleboard. When I pointed out to him that his interpretations were not mutually compatible, he was not in the least concerned. He was, instead, rather proud of the fact, evidently having been able to rationalize his weakness into a virtue; for he used to claim that systematic psychology, organizing all phenomena under consistent hypothetical principles, was at present premature and not recommendable, under all circumstances being bound to be philosophy rather than science. This was his effective way of self-deception. He was one of the three people who have told me that science has no postulates. A noteworthy *trio*.

Both these instances, the one of the physician and the one of the psychologist, are, I believe, complications of the common type of self-deception that consists merely in the devaluation of the goal one is too inferior to reach; the classical illustration of this type being the fable of *The Fox and the Grapes*.

One of the simplest and commonest means used by man in order to reduce an aggravated feeling of guilt is attempting to convince himself that he genuinely intends to make amends for his disreputable deed. Submerged in the agony of his feeling of guilt, he gives himself the promise of making amends for what he has done—a promise never to be kept. This method of escaping or reducing the pain of guilt is too simple to involve any rationalization; yet it represents self-deception; for momentarily the promise is felt to be genuine.

There is a horrible example of this procedure in Erich Maria Remarque's famous novel *All Quiet on the Western Front*. The hero of the book, Paul, has killed with his own hands the young French soldier who has tumbled into the shell

hole in which he himself was hidden. He is horror-stricken by his deed and by fear for his own life.

. . . I talk and must talk. So I speak to him and say to him: "Comrade, I did not want to kill you. If you jumped in here again, I would not do it, if you would be sensible too. But you were only an idea to me before, an abstraction that lived in my mind and called forth its appropriate response. . . .

"I will write to your wife. . . . I will write to her, she must hear it from me, I will tell her everything I have told you, she shall not suffer, I will help her, and your parents too, and your child—"

His tunic is half open. The pocketbook is easy to find. . . .

. . . It slips out of my hand and falls open. Some pictures and letters drop out. . . .

There are portraits of a woman and a little girl, small amateur photographs taken against an ivy-clad wall. Along with them are letters. I take them out and try to read them. Most of it I do not understand, it is so hard to decipher and I know scarcely any French. But each word I translate pierces me like a shot in the chest;—like a stab in the chest.

My brain is taxed beyond endurance. But I realize this much, that I will never dare to write to these people as I intended. Impossible. I look at the portraits once more; they are clearly not rich people. I might send them money anonymously if I earn anything later on. I seize upon that, it is at least something to hold on to. This dead man is bound up with my life, therefore I must do everything, promise everything, in order to save myself; I swear blindly that I mean to live only for his sake and his family, with wet lips I try to placate him. . . .

By afternoon I am calmer. . . .

One hour more. . . .

. . . I think no more of the dead man, he is of no consequence to me now. With one bound the lust to live flares up again and everything that has filled my thoughts goes down before it. Now, merely to avert ill-luck I babble mechanically: "I will fulfil everything, fulfil everything I have promised you—" but already I know that I shall not do so. . . ."[1]

The following examples of self-deception subserving the escape from feeling of guilt, all involve, in some measure, rationalization.

[1] *All Quiet on the Western Front,* pp. 230-234.

Some years ago at a scientific congress, I met for the first time Prof. X., of ————, Germany, whom I admired for his brilliance as a writer. It had happened that a few days before the opening of the congress Dr. Y., a prominent American neuro-psychiatrist, had died, and naturally our conversation drifted upon his personality and scientific contributions. I mentioned that for some years I had had the privilege of assisting Dr. Y. in his work, for which I felt duly grateful. I finished my eulogy by pointing out that Dr. Y. had been a great scientist, a charming individual, and a *prominent politician.* As the words left my lips, I realized that the last part of my statement was a tactlessness toward Prof. X., for during the Great War Dr. Y. had written articles adverse to German politics, while Prof. X., although not conspicuously, belonged among the German university professors who had carried on *pan-German* propaganda. I was sorry for my slip of tongue, but there it was, a *fait accompli* that could not be undone. The interesting part, however, is that during days and weeks I attempted to minimize my feeling of guilt by a number of rationalizations aiming at a falsification of my own retrospect. I recall how I tried to convince myself that, when I mentioned Dr. Y. as a politician, this might only have suggested to Prof. X. Dr. Y's literary participation in the politics of the Balkan States or the Near East—which, of course, was foolish.

In sending up rockets you have injured your companion. Immediately you begin the self-defensive manipulation of evidence, and you may say and believe: "I could not help it; there must have been something wrong with the rocket; it went out of its course, I did not point it towards Mr. X." Or you may proceed and believe like this: "I did not expect the rocket to go off as soon as it did; there must have been something wrong with the fuse," and so forth. The more skilfully you are able to rationalize, the more successfully you will abolish the feeling of guilt which arose from a recognition that the fatal effect has been due to a lack of caution on your part.

The Duke of Gloucester's hired assassins arrive at the Tower where George, Duke of Clarence, is held imprisoned. They are met by Sir Robert Brakenbury, who is lieutenant of the fort. The latter surmises that some evil deed is contem-

plated and, as an upright man, he wishes to interfere. But he is at the same time afraid for his own safety and, although he feels guilty in admitting the murderers, he succeeds in concealing this feeling from himself by rationalization. In fact, he raises into prominence a consideration that turns his cowardice into a virtue, for he justifies his cowardly weakness by exalting his duty of obedience towards his superiors. When the two men have shown their pass-order from Gloucester, he says:

> I am, in this, commanded to deliver
> The noble Duke of Clarence to your hands:
> I will not reason what is meant hereby,
> Because I will be guiltless of the meaning.
> There lies the duke asleep, and there the keys;
> I'll to the king; and signify to him
> That thus I have resign'd to you my charge.[2]

Solness, in Ibsen's play *The Master Builder,* throughout his life has refused to give credit to his old assistant and the latter's young son, both very able architectural designers. This he has done from jealousy or for fear of being himself surpassed as an architect, particularly by the younger man. A feeling of guilt no doubt has ensued. To reduce or even rid himself of the latter, Solness successfully rationalizes as follows: He succeeds in convincing himself that he is the great genius to whom the code of right and wrong of the average man does not apply. Being a genius, he must even progress—should it be at the cost of his fellow-men—without consideration of the welfare of others. Solness' protective self-deception, in other words, is a typical grandiose delusion, a type of delusion that in many people leads to grave mental disease.[3]

Clytaemnestra, wife of Agamemnon, causes the latter to be assassinated because she wishes to live with her paramour Aegisthus. Conscience-stricken after her deed through the continual accusations on the part of Electra, Agamemnon's daughter, she attempts to conceal from herself her guilt. She adopts for this purpose the technique of trying to find fault with her victim, thus making him appear deserving death by

[2] Shakespeare, *King Richard III,* Act I, scene 4.
[3] Henrik Ibsen, *Bygmester Solness.*

her hand. She depicts him to herself and to the hero's daughter as a base individual. To quote:

> . . . by my hand he died! By mine; I know it;
> There's no denial of the deed in me.
> But Justice slew him; I was not alone;
> And had you sense, you ought to take her side;
> Since he, this father whom you still bewail,
> Alone of all the Argives had the heart
> To offer to the Gods your sister's life—
> Whose pain in her begetting equalled not
> My travail-pangs, who bare her! Be it so;
> Now tell me for what cause, and for whose sake,
> He offered her? For the Argives, will you say;
> They had no right to kill a child of mine!
> If for his brother Menelaus' sake
> He slew my daughter, was not he to pay
> Forfeit for that? Were there not children twain
> Born to that father, who, had right been done,
> Ought rather to have died, whose sire and dam
> Themselves had caused that voyage? Had the Grave
> Some fancy for my offspring, for its feast,
> Rather than hers? Or had all natural love
> Expired in that pernicious father's heart
> For children born of me, but not for children
> Of Menelaus? Was it not the act
> Of a perverse insensate sire? I think it,
> Though you deny; and so would that dead girl
> Say, could she speak. For what my hands have done
> I do not feel remorse; but if to you
> I seem of evil mind, censure your folk,
> When you yourself are just!

And Electra, holding up the mirror:

> . . . You avow my father's death;
> What could more ill become your mouth than this,
> Whether he were unjustly slain or no?
> But let me tell you that you slew him not
> For Justice, but perverted by the lure
> Of a base wretch, who is your consort now.[4]

[4] Sophocles, *Electra* (trans. Sir George Young).

King Henry is in love with Anne Boleyn; at the same time he is married to Queen Katharine. In order to be able to wed fair Anne, as he wishes to do, he has to dissolve his marriage, but this is an act of cruel undeserved hurt to the noble queen, and he feels guilty toward her. He can discover no fault in her to justify his contemplated deed, but, as time passes on, he finds that there is a flaw in their nuptial bond. His conscience begins to fret him because he has wedded the woman who was once his brother's wife, a union that he wishes to believe and succeeds in believing illegitimate and morally felonious, thus making his contemplated divorce a virtue instead of a vice. Finally, he manages to deceive himself as to his real criminal motives, and to conceal from his own mind, behind a superficial edifice of religious scruples, the feeling of guilt that attaches to the latter.

Three clear-sighted noble lords of the king's court, Duke of Norfolk, Duke of Suffolk, and the Lord Chamberlain, see through his self-deceit. Between them occurs the following conversation which reveals the true cue to the royal dilemma:

Suf. How is the king employed?
Cham. I left him private,
Full of sad thoughts and troubles.
Nor. What is the cause?
Cham. It seems, the marriage with his brother's wife
Has crept too near his conscience.
Suf. No, his conscience
Has crept too near another lady.[5]

My examples speak sufficiently clearly their own story. *Ecce Homo!*

[5] Shakespeare, *King Edward VIII,* Act II, scene 2.

CHAPTER X

Delusions in the Manic-Depressive Psychosis

What Reason weaves, by Passion is undone,
Pope, *Essay on Man,* Epis. II, l. 42.

IT IS MY intention, in the present and following chapters, to take up for discussion two prototypes of delusion-formation, each characteristic of a specific major psychosis, and each illustrating, directly or indirectly and in different ways, the rôle of the two great principles of belief-engenderment, the emotional and the rational principle. The prototypes I have in mind are the delusions current in the manic-depressive psychosis, on the one hand, and the delusions prevailing in the schizophrenic disorder, on the other. Delusions occur in other of the major mental diseases, but, in most instances, they conform in their psychological nature and origin more or less closely to one or the other of these two prototypes.

In a monograph entitled *The Manic-Depressive Psychosis,* I have joined the group of psychiatrists who consider the latter disorder to have, at least partly, a toxic basis. I have supported this view, not by revealing the chemical formula of the toxine concerned, but, rather, by demonstrating that the majority of the symptoms of the psychosis can be properly interpreted as the effects of a poison of the nature of a depressant drug working upon the higher centers of the nervous system. If it is true that a depressant drug produces a general dissociation of the brain, particularly of the cortex where neural connections are more recently and, consequently, less firmly established than in sub-cortical parts—this dissociation, according to a theory suggested by William McDougall, being due to the increase of resistance in the synapses between neurones and neurone-systems—if this is true, we would expect as the psychological expression of the toxic condition a general disintegration of personality, that is, a general breaking down of the hierarchal inhibition and control that is the essence of the growth of mind into character under the influence of life

experience. Such general disintegration of personality is exactly what, in the manic-depressive psychosis, is found manifested in the major portion of the symptoms of the disorder.

I wish to point out that, to the best of my understanding, this chemical theory of the manic-depressive psychosis does not contradict my strictly dualistic-interactionistic conception of the mind-body relation; for the body, more especially the nervous system, has to be thought of as the mind's tool, created and perfected by mind in evolution; and as the instrument through which, at least as far as we know, mind expresses itself in thought and deed. Accordingly, just as the temporary disorder of the professional tools of any man might prohibit for a time his normal execution of his handicraft, the temporary derangement of the mind's tool, the brain, has to be thought of as impeding mind's proper carrying out of its purposive goal-seeking endeavors.

One of the great results of the integration of human mind into character is the introduction of control over the crude instinctive impulses, a control that partly, though not wholly, corresponds to a substitution of rational-emotional for purely emotional process.

Such control does not signify the eradication of instinctive life. The great instinctive urges still remain; if not, the individual and the race would not survive. It signifies, rather, two modifications of instinctive expression: on the one hand, a certain blunting of its crude violence, on the other hand, a restriction of it to socially proper time and place, the latter modification, in other words, representing the introduction of proper deliberation in instinctive conduct. Contrary to the mode of functioning of integrated impulses, the crude, natural working of impulses is characterized by supreme and unimpeded intensity of striving, manifested immediately upon the evocation of the impulse. Such instances of primitive impulsive reactions may properly be called tantrums.

In the manic-depressive patient, due to the general toxic disintegration of mind, there appears a reversion to the tantrum level of conduct; that is, the patient's crude impulses when called into activity are likely to manifest themselves with full intensity and without proper deliberation. This is particularly characteristic of what I have called the second stage of

profundity of disintegrative process, which corresponds to a specific severity of toxic influence. There is a first and a third stage each with its own peculiar symptoms, but these are of no interest to us here. A further description of the second stage, on the other hand, is pertinent to the problems of the present thesis, for this is the stage at which delusions or false beliefs are current.

The liability to tantrums on the second level of profundity of disintegration develops slowly and gradually. Its early expressions may be fairly innocent, as in the case of a young girl who has been under my observation. The first act that appeared peculiar in this girl was that, one afternoon when her parents were away, she suddenly got the impulse to go to a motion picture theater, an impulse which she obeyed. This was in itself not very startling, because she had done so many times before; the unusual thing was that, in the sweep of her impulse, she neglected to leave a note to her parents telling them where she had gone, as had always been her rule previously. In other words, the supremacy of her impulse removed from her mind the normal appreciation of the forms under which she could properly satisfy it, removed some of the critical deliberation which naturally should have accompanied the carrying out of the impulse.

Let us analyze a little closer the psychological processes involved in her conduct. She is possessed by an impulse the goal of which is to realize a certain ego-object relation which will satisfy her impulse. The object of this relation is the moving picture, the (EO)-relation to be realized is *her going to the theater and seeing the picture*. The realization of this relation is of intensive ego-concern, so much so that other things are neglected, particularly she neglects to inform her parents of her doings. In other words, she neglects entirely to consider her going to the theater in relation to her parents' distress at not finding her in the house on their return, which is distinctly a consideration of the goal-object in its centrifugal relation to another thing, and thus a rational consideration. The tendency for tantrum reactions and the tendency for rational consideration of things thus seem to be inversely related. The former tendency represents a definite emphasis

upon the consideration of objects in their ego-relation rather than in their universal relation, an attitude which, as I have pointed out before, is characteristic of emotional process.

The next impulsive act of this young girl, in fact, the one that brought about her commitment to the hospital where I had an opportunity of observing her, was more severely maladjusted. She had a "beau" in ————, New York, whom she was very fond of and whom she eagerly desired to see. One day her parents found her with her valise packed on her way to leave for the train to ————. She had not told about her intention and she was not sufficiently furnished with money for the trip; furthermore, as she was not of age, she could not properly have undertaken the journey without company.

In this conduct we note a further disregard of the consideration of things in their centrifugal relation to other things, while the ego-object-relation-to-satisfy-a-desire becomes the paramount concern. The young girl ignores the anxiety her parents will suffer at her disappearance, she ignores that, as young as she is, she should not travel alone, she ignores the money that is needed for traveling. The latter is particularly interesting, because it illustrates the complete absence of planning that is characteristic of impulses working on the tantrum level, and the blind pushing on towards the goal. Again, all these considerations that she ignores under the sway of her impulse are considerations of her goal in its centrifugal relation to other things, these considerations disappearing when the determinant of conduct becomes essentially emotional.

I have made these brief analyses in order to point out, as so many times before in my thesis, how frequently the emotional and the rational processes are mutually antagonistic. Even in the instances when rational planning of an end is brought to serve goal-attainment, at the moment the planning is performed, the experience of emotional excitation abates. In my monograph *Conation and Our Conscious Life,* I interpret this phenomenon by assuming a drainage of energy from the emoving sub-process of a special impulse into the coinciding process of primordial curiosity.

Small episodes like the ones described mark the onset of the deeper disintegration of personality that leads to exaggerated tantrum reactions. I shall submit some notes describing this extreme condition: they are extracts from notes on a young girl patient, sixteen years old and of good family, who came to the hospital a human bundle of sheer lust. Although this young girl is not the same as the one referred to above, we might as well imagine that she were the latter, for this would give, in one and the same case, the total progression from slight to extreme liability for tantrum conduct.

The patient was seen a short time after admission by the writer and Doctors L., W., and G. She remained quietly in bed for some seconds; then she sat up, stretched her arms towards the writer, whom she addressed as Dr. S., and tried to embrace, crying out, "Let me hug you." From then on she displayed rather free and unconstricted activity of a more or less erotic type. She talked continually in a rather modernistic fashion, using frequently such expressions as "making whoopee," "getting drunk," "bearing children," etc. Her mood was definitely exhilarated. She was superficially clear, knowing that she was in a hospital and being able to recall the names of Doctors L., W., and G. correctly. There was much talk about a young man whom she called Dickie. "Can I have Dickie, quick? It is anyone's privilege to make whoopee. Oh. it's wonderful. I am so happy, I can't talk. Who wouldn't be, having Dickie." Here the writer asked the patient how she happened to come to the hospital. She replied: "I came here because I loved you, and had to have you. You know what happened up in—? I got drunk and Dickie said I might have a kid without wanting it." Upon this the patient invited Dr. W. to sit on the bed and as he refused she purposely thrust herself out of the bed to embrace him.

The continuation of the note is by the nurse who attended the patient:

The patient became somewhat more composed after the interview. She coughed a good deal, apparently an affectation. In the afternoon she began to scream for Dickie. In the evening her conduct became very dramatic. She would throw herself from the bed to the floor, beat her head, scream loudly, throw pillows and bed-clothes about. In the meantime she called for Dickie. When opposed in her tantrum-like conduct by the nurse

she tried to strike the latter with a bed slat and to choke her. She was temporarily placed in a camisole and transferred to the ——— House. There she continued very noisy, constantly calling for Dickie and talking about making whoopee. "Bring Dickie here. I can't do without him. I must have my Dickie, and don't fool me again." After this she alternatingly sobbed, screamed, and threw herself on the floor. . . .

The above notes need no comment. They speak sufficiently clearly their own pathetic language.

On the basis of the exaggerated liability for tantrum emotional reactions here described and illustrated, there frequently appear in the manic-depressive patient false beliefs. These, in their psychological determination, are, broadly speaking, of the same kind as all emotionally induced beliefs. In other words, they are akin to the belief in the reality of fairy-land of the little child; they are akin to the belief of the young boy in the greatness of his hero; and they are akin to the minor self-deceptions of the normal man. Just like the former beliefs, they disappear when the rational process sets in, which occurs as soon as the general disintegration of personality is removed by the wearing out of the toxic effects of the disease. They differ from all the three beliefs mentioned in the respect that they are conditioned by a general derangement of the tool through which mind expresses itself, caused by some toxine of the depressant group—a general derangement which breaks down adaptive inhibitions and thus effects a return of the patient to the tantrum level of conduct characteristic of the little child and of primitive man. These delusions are also akin to the delusions expressed in the mythology and demonology of the latter, delusions which have their ground in primitive credulity.

A very typical form of delusions in the manic-depressive patient consists in a delusional interpretation of impressions from the outside. Take the case of a woman who is in a continual state of frantic fear or a mood of tantrum apprehension. She hears footsteps in the hall. Immediately she rushes up and cries that there are murderers coming to kill her. I take her to the door and show her that a pretty young nurse has just gone by. This does not help. She is still shivering in

fear of the murderer, because the ego-object relation yielded by her fear can not be seen in its centrifugal relation to other things; after the delusion is induced she cannot comprehend the relation between the instigating footsteps and the presence of the young nurse. Or another patient who is in a continual mood of elation. He hears footsteps in the hall. "Ah," he says, "the governor of the state and his suite are coming to see me." He goes out of his door and before him is a group of people. It happens to be a professor and his students who have come to the hospital in order to attend a clinic. The patient maintains his belief, however, that he is honored by a visit of the governor. He approaches the professor and greets him: "Your Excellency, I am very glad to see you and your staff. Please come in and be seated."

What happens psychologically in instances of this kind is, technically expressed, as follows: the meaning of the object of an ego-object relation, generated imaginatively by a dominant emotional state, fuses inadequately with an unlike yielded by primordial curiosity. As the latter impulse functions only on its most primitive level, the higher rational function derived from it and properly active in the state of health being deranged by the disintegrative process, no critical correction of the ensuing false beliefs is effected; and the immediate result of the inadequate fusion referred to, notably the erroneous interpretation of the impression from the outside, endures as a delusion. This phenomenon is akin to instances in the life of the normal man when a person, for adequate reasons, is in a transitory apprehensive mood and, under the influence of that mood, sometimes believes the most harmless thing a danger object; or when a person, extremely hungry, momentarily believes a stone to be a savoury bun. Here, as in the pathological cases, we have a meaning-process urged by a strong impulse fusing inadequately with an unlike yielded by primordial curiosity. In the normal instances, however, the delusional beliefs thus induced are rapidly corrected by rational object-object consideration, for in these instances the enlightened higher functions of primordial curiosity are unimpaired.

In addition to the delusional interpretations of impressions

here discussed, we see in the manic-depressive patients plain delusional imagination urged by supreme emotion.

There is a certain set of impulses—not to be analyzed here —which, if they function coincidently, due to their conflict and other inter-relations, cause what is known as a feeling of guilt. Feeling of guilt frequently becomes extreme in depressed patients of the involutional age. It is in such patients, perhaps, that one can observe the most spectacular delusions. I recollect a woman patient of this type whom I knew for many years. In her extreme feeling of guilt, she claimed that she was killing all the patients on the ward, sucking their blood. Doctors and nurses were also included among her victims. "Look at my hands," she used to say, "they are red, they contain all the blood of all the patients. I am gradually killing them by sucking their blood." In the summer of 1933 I visited the hospital where this woman was confined. She was still there and I paid a call, not having seen her in three years. She recognized me immediately and started to tell me that I would be dead to-morrow because at that time she would have sucked out all my blood. It was pathetic to recall how many scores of times she had told me exactly the same thing in the old days when I was a staff member of the hospital. I pointed out to her this fact: that she had predicted my death three years ago and here I was strong and healthy. "Yes," she said, "but to-morrow it is going to happen, to-morrow you will be dead."

The corresponding condition in the manic phase of the manic-depressive disorder is well illustrated by the following case: A man patient, in his supreme desire to assert himself, transmits to me a remarkable communication. Showing me a small scratch on his palm, probably contracted without his notice, he tells me that this is the sign of stigmatization, and indicates that he is a saint and that he has an important mission to carry out. In further support of his saintly eminency he brings out the fact that he was born on a Sunday. When I contradict him, he turns upon me in extreme anger and, upon my smooth withdrawal of my objections, he changes into a jovial attitude in which, with supreme haughtiness, he condescends to forgive me.

Delusions of this kind are the result of pure imagination, urged by supreme impulse, believed in virtue of primitive credulity, and uncorrected due to the derangement of the rational processes until the recovery from the disease.

The dream-state is a peculiar condition of mind during which events utterly incompatible with waking tested knowledge are viewed as real without questioning. It may be that the credulity of the dreamer has some kinship with the credulity that is the ground of delusions in the manic-depressive patient. This would be true, assuming two propositions are valid, one concerning sleep, the other concerning dreams; both propositions have been made and have been widely accepted:

I: The oncoming fatigue which instigates sleep represents a state of intoxication of the higher brain-centers by some chemical by-product of metabolism of the general nature of a depressant or dissociating drug.

II: Dreams are emotionally determined, being essentially fancies urged by desire.

If these two statements are correct, some resemblance between dreams and manic-depressive delusions obtains. (1) In both instances we have an impairment of the tool of rational process, the brain-cortex, by toxic influence; (2) in both instances we have a condition under which impulses, normally controlled, are free to come to expression; (3) in both instances we have fancy produced by such freed impulses, fancy which is believed real because it remains uncorrected by rational process; such process being temporarily deranged and inefficient due to the above-mentioned toxic influence.

> Dreams are but interludes which fancy makes:
> When Monarch-Reason sleeps, this mimic wakes;
> Compounds a medley of disjointed things,
> A mob of cobblers and a court of kings:
> Light fumes are merry, grosser fumes are sad;
> Both are the reasonable soul run mad:
> And many monstrous forms in sleep we see,
> That neither were, nor are, nor e'er can be.
>
> (Dryden, *The Cock and the Fox,* l. 325.)

In the terms of my hypothesis of the primordial cycle of activity, curiosity-sleep (compare Chapter V), the credulity of the dreamer would be accounted for as follows: Sleep is a general

impulse, activated by certain metabolic events in the body of an organism which result from intensive exertion of effort. Its aim is to produce a condition allowing rest and restitution. In the service of this purpose, it represses and reduces all mental activity, first in order, the activity of general curiosity, then, that of special conation. Dreamless sleep would indicate a condition of profound inhibition of all impulses; sleep with dreams, on the other hand, a condition in which general curiosity is profoundly repressed but special conation still at liberty to function in sufficient measure to produce fanciful satisfaction of its own ends. Such fancy, in accordance with the fundamental psychological principle that goals of desire are always apprehended as realities, would be viewed as real by the dreamer; his delusion—as long as the sleep lasts—remaining uncorrected by rational process because general curiosity, the impulse urging such process, is fundamentally checked by the impulse of sleep. The latter theory of the credulity of the dreamer is inclusive of the former; for it incorporates the acknowledgment of sleep as a state of intoxication of the brain-cortex, the latter influence being the chief physical-physiological event exciting the impulse of sleep. None of the theories account for the distortion of the dream-content of the majority of adult dreams—this singular phenomenon that Freud has attempted to explain in a somewhat fantastic vein.

It is interesting to note that, even during sleep with utterly absurd dreams, general curiosity is not fully dormant; it still functions on its very lowest plane of activity, for simple, so-called sense-impressions demonstrably affect the dream, entering into it in a variety of distorted or symbolic forms, fusing with wish-determined fancy in a ridiculous and inadequate fashion. Even in the very deepest sleep, general curiosity is not below the threshold of excitability; for, as has been pointed out to me by one of my graduate students, Mr. J. B. Schoolland, if that were the case we would not be able to be awakened.

When, as happens many times during dreaming, one begins to doubt the reality of one's own dream, then, awakening immediately follows. The doubt during dreaming is, in all probability, the expression of rising and expanding rational process, of functional recovery of general curiosity and commencing break of the sleep condition.

The delusions in the manic-depressive psychosis—directly and indirectly—bring into relief the two principles of belief-

engenderment: the emotional and the rational principle. These delusions are induced in accordance with the former during a condition when emotional life by disease is likely to become dominant and when, at the same time, rational life for the same reason is defective. They are corrected with the abatement of the extreme emotionality and with the return of proper rational process.

CHAPTER XI

Delusions in Schizophrenia

> Woe to the youth whom Fancy gains,
> Winning from Reason's hand the reins.
>
> Scott, *Rokeby*, Canto I, st. 31.

IT IS NOT possible nor necessary to submit here even a brief sketch of the schizophrenic disorder at large. The problem as to the nature and origin of this psychosis is at present very obscure. I am inclined to think that it is independent of toxemia; if I should err in this opinion, I am still convinced that the possible toxine responsible for the disease is not, as is the case in the manic-depressive psychosis, a chemical of the depressant or dissociative type. The mind of the schizophrene is not disintegrated; it is, rather, pervertedly integrated, the perverted integration beginning probably very early in life.

Characteristic of all forms of schizophrenia is the prevalence in the patient of delusions. Indeed, false beliefs are the most crucial symptoms of the disorder. The delusions of the schizophrene, like all the other varieties of delusions we have dealt with, belong among the impulsively or emotionally engendered beliefs. Psychologically they are most closely akin to the minor self-deceptions of the normal man, but the differences are more conspicuous than the similarities. Like the enduring self-deceptions of every man, the delusions of the schizophrene are conditioned by a constriction or deterioration of the rational functions, but in the false beliefs of the latter this constriction is a very extensive one, sometimes amounting to actual inhibition of rational process at large. Another difference between the minor self-deceptions of the normal man and the false beliefs of the schizophrene is that in the etiology of the latter enter prolonged periods of extensive day-dreaming. Such day-dreaming, like all dreams, is urged by desire (emotion) and constitutes a compensation for some experienced *misère*. As in the minor self-deceptions, the *misère* from which the patient wishes to escape is, as a rule, the painful self-recognition of either inferiority or guilt, in many instances of

both. The day-dream that compensates for the former is the dream of eminence; the day-dream that compensates for the latter is the dream of oneself being persecuted and victimized by the cruelty and vice of others.

The delusion-formation of the schizophrene can be fully understood only by reference to his whole life-history.

The schizophrene presumably is born egotistic. Technically this means that natively the altruistic instinctive impulse to protect is weak or absent. This defect influences his entire growth of character. He is from the beginning incapable of sacrificing for the common good, as every social human being is compelled to; for he lacks the altruistic urge, upon which all moral and unselfish character has to be founded. Instead, his mind will become increasingly dominated by purely egotistic interests and, finally, his character will represent a hierarchy of desires ruled by a purely selfish master-impulse. This failure of altruistic character development will be clearly manifested throughout his life. From childhood he will display egotism in all his activities, in all his desires; and, as the necessity of life forces him to certain social adjustment, this adjustment will not imply a real whole-hearted entrance into the stream of interests of his fellow-beings; it will imply, rather, that by repression he succeeds in adopting a mask of social propriety which superficially hides his egotistic master-trend, and prevents the crudest friction with his group, a mask that, whenever it can be thrown off without injury, is immediately cast aside.

Sooner or later life will deal harshly with such a man. The hiding mask of acceptance of the ideals of the group is transparent, and reflections of his true character penetrate it repeatedly. On such occasions he is thwarted by his group and he fails to satisfy his egotistic desire. This forces upon him the painful self-recognition of inferiority, or, if his desire is judged shameful by the group, the painful self-recognition of guilt. He is opposed continually in his selfish wishes and yet he cannot wish otherwise. He suffers friction with his fellowmen along the whole front-line of his activities, and the more irresistibly he is stirred by an urge, the more painful will be his defeat by the disapproving group.

Being an egotist, this man is extremely sensitive, and this

causes him to magnify all subjective injuries. As an egotist, he is also fundamentally alone, has nobody to confide in. This promotes the brooding upon injuries and disappointments and the latter become further magnified. His first morbid reaction to his misery consists in social withdrawal accompanied by compensatory day-dreaming. This withdrawal oftentimes takes on the appearance of a change of personality; in reality it is not. It may set in at different ages. It may appear as early as in his childhood, but also later. If he is a spoiled child who by weak parents has been allowed to give full vent to his egotistic cravings during the major part of his childhood, his social difficulties may be postponed. Sooner or later, however, disappointing experiences will face him, if not earlier, at least when he leaves home. Such a situation, accordingly, may date the beginning of seclusiveness at the later part of boyhood. Frequently the age of puberty is critical to him. At this time more than ever he would need whole-hearted control. Lacking such control, he is liable to fall, more and more, into indulgence in imaginary wish-gratification. With his sexual fantasy merges the dream of eminence or the dream of persecution, the two phantasmagories which are ambivalent to or compensatory for his feeling of inferiority and of guilt.

In order to allow the day-dream to continue undisturbed, he withdraws increasingly from social relations. The day-dreaming grows into a more and more domineering habit and, finally, it fills the major part of his waking life. Yet the habit is only meagerly satisfying. Dream is still dream and the desire remains fundamentally ungratified. The merely imaginary fulfilment of his wishes cannot subdue nor extinguish the vital hunger. Gratification can be reached only after his disease has developed to a new stage, namely, the stage of repression of the rational function which holds his dream in the sphere of unrealities. Only through such repression can the dream become equivalent with actual existence and thus a fully satisfactory substitute for it.

This repression does not take place without struggle; the abandonment of the rational consideration of his dream-goals in their universal relations is not a smooth process. There are frequent moments of solitude when his fantasies are inter-

rupted by the enforcement of such rational consideration and of normal appreciation of experience, and immediately the dream retreats to the realm of the shadows and does not satisfy any longer. And again the pangs of non-gratified wishes fret him. During this period of conflict he is supremely unhappy. Gradually, however, he succeeds in accomplishing effective repression of the rational impulse, and from that moment on his distress is relieved. Free route is open to him to attain full gratification of his egotistic desires in a subjective world that can be readily moulded by these desires to fit their purposes, yet one that to him is fully real. For him dream is no longer dream; it is reality. But this subjectively satisfying state, from the rational viewpoint, is the state of an incurably useless man swayed by delusions that prohibit all comfortable progress in a rational world.

I have offered here a general description of the delusion-formation in the schizophrene. I shall proceed to illustrate the latter by presenting a case which I have extensively discussed in my monograph *Schizophrenia.* It is a fictitious case, but it is designed to be, as closely as possible, prototypal of simple schizophrenia.

Huck Jones was the mail-carrier of the little village of ——— in a rural Southern state. He was the son of honest farming people. He was never particularly bright but he had done moderately well in school. He had always been rather shy in company; yet he seemed to like to be with people, although rather as an onlooker than as a participator in their activity. On the few occasions when he was known to have taken part more eagerly in the doings of the young people, he had always attempted to lead but had as a rule failed, because if he was not passive he was awkwardly demanding. When he was sixteen, it happened that the old mail-carrier of the village broke his leg and had to resign. Huck applied for his office and it was granted him. He seemed to be well pleased with his appointment, and those who knew him intimately agreed that he liked his occupation because it was essentially solitary work. He carried on to satisfaction for five years, silently, yet responding to conversation and sometimes, on his own initiative, commenting upon the weather to the people to whom he delivered the mail. He lived with his parents. In his free time he liked to read. In his home were a few books; among these, strange to say, a copy of H. C. Andersen's *Fairy Tales.*

Huck liked that book and was particularly fond of the story of "The Ugly Duckling," which, in a kind of a vague manner, he thought applied to himself. There was also a book called *Napoleon's Wars* which he liked. On the first page was a picture of the emperor. Huck used to open that page, then put a mirror in front of himself in order to see if he resembled the great Napoleon. He thought that there was some likeness. He soon discontinued this practice, however, because some of his mates found him out and made fun of him. People often made fun of Huck. He never seemed to get irritated about it; he merely went out of the way. As he entered the early twenties this changed. He seemed to become somewhat vexed when humorous remarks were made about him. For instance, now not only did he withdraw but he also slammed the door behind him on leaving. He also kept increasingly to himself and talked less, and seemed on the whole a little melancholy. When some friendly person asked what ailed him he did not answer. Yet he carried on his work to satisfaction.

Then, there was again a change. Huck began very gradually to become more communicative. What he said, however, was now faintly bizarre. He liked to express a doubt as to whether his father and mother were really his parents. Gradually he became more and more positive that this was not the case and when somebody asked him who he was, he said: "I am of royal blood, I am like the ugly duckling." Some time later he turned more specific and named the imperial house from which he claimed to be a descendant. The news of Huck's folly spread rapidly through the village, and his case was much commented upon. The consensus of opinion among the village people was that "Huck was going goofy." Again, some time later, it was noticed that Huck had begun to neglect his work. One day he sat down at the roadside, remaining there for two hours seemingly far away in some kind of preoccupation. When reprimanded, he offered a vague apology.

Finally, matters reached a climax. One morning Huck did not come at all to the post-office for his mail pack, and when people looked around for him, he was found at the railroad station, valise in his hand, waiting for the Eastern Express. When asked why he had not come for his mail, he said evasively, "Not today," and when further asked what he was about, he replied: "As a prince of blood, I am going to call on the president in the White House." His friends tried to persuade him

not to make a fool of himself and when the train arrived, they attempted to keep him from boarding by force. Huck then set up a fight for the first time in his life with the result that the sheriff arrested him and confined him provisionally in the county jail. An old friend of Huck and of his parents visited him there. "Look here, Huck," he said, "don't you know that Jim and Lizzy, my old friends, are your father and mother; don't you know that they were married on May 12, 19—, and that you were born on the very day a year later?" "No," replied Huck somewhat hesitatingly, "I am not their son. As a little boy I was brought to them on a dark night by an unknown gentleman who gave them money for adopting me as their own child." "But, how do you know all this?" inquired the old man. "Ah," said Huck, "there are at home some linens on which are embroidered royal crowns; these are the linens in which I was brought here." "My dear Huck," replied the friend, "the linens you are speaking of are towels that were given to your mother by her sister before your mother set up house with Jim and the embroidery that you call royal crowns is, in fact, bridal wreaths which your good aunt herself made in commemoration of the occasion." This argument seemed to have no convincing effect upon Huck.

Shortly afterwards, Huck was taken to the state hospital. The old friend of the family, contemplating the sad event made the following reflection: "Who would have thought this of Huck? Why, I remember two years ago I wanted to tease him; so I told him that the governor of the state was interested in him and had written to the postmaster that he was coming to ——ville in order to make his acquaintance. Huck only said: 'No, Uncle Pete, you can't fool me,' and turned his back. And now he wants himself to go to the White House and see the president."

In order to analyze further the case here presented, let us first recall that Huck believes that he is the son of Emperor X. He believes this so thoroughly that he thinks it proper that he in his eminence should call at the White House. Let us then keep in mind that if, two years earlier, somebody would have suggested to Huck the proposition which he now fondles with full conviction, he would not have accepted it. Why not? Because, at that time, he would immediately have realized the incompatibility of the suggested state of affairs with his whole experience, his experience as a farmer boy in the house of his

father and mother, his experience in the village school, and so forth. In other words, two years ago the consideration of the proposition, "I am the son of Emperor X.," in its centrifugal relation to other things and propositions, would immediately have forced upon Huck the acknowledgement of its unreality. At that time, accordingly, the rational impulse was awake in Huck, urging him to the consideration of object-object relations. During the two fatal years when Huck's disease is brought into bloom, this rational impulse goes wrong and gradually deteriorates. There is still a reflection of it in Huck's rationalization, just as in the rationalization supporting the self-deception of the normal man. Huck, as the latter, still interrelates things by sentence modifiers such as *because* and *therefore,* which is the form of rational process, but the things subordinated are erroneously related, because each of them is false, not having been submitted in their turn to sufficient rational test. Thus Huck: "I am not their son, *because* a man brought me on a dark night. There are royal crowns on the linens in which I was brought; *therefore* I am of royal blood," and so forth. A caricature indeed of the rational process, yet in all its deterioration signifying, indirectly, the rôle the latter normally plays in the determination of belief.

In Huck's case, then, we see reflected most of the features which I pointed to in the general description of the delusion-formation of the schizophrene. We see the continual frustration of the egotistically colored desire of assertion or leadership, making for the painful self-recognition of inferiority. We see the latter feeling nourished by the ridicule of mates and friends. We see the social withdrawal accompanied by compensatory day-dreaming subserving the escape from the inferiority feeling. Then, we see the period of suffering during which the rational consideration of the dream is repressed, a process which comprises the intentional turning away from any consideration hostile to the content of the dream, in conjunction with the construction of superficial argument in favor of the latter. Finally, we see the successful inhibition of the rational impulse, resulting in the transformation of the dream into subjective reality.

The case of Huck Jones is a simple case. The more complex cases differ from the simple ones in regard to measure of

systematization of the delusions. In other words, in the complex cases, the paranoid ones, the rôle of the pseudo-rational function is more extensive. The rationalizations are more involved and cover a larger scope. Yet the process of rationalization is still a caricature of true rational activity, for the contents inter-related by *because* and *therefore* are intrinsically false, not having been themselves centrifugally considered.

In the case of the delusion-formation of the schizophrene, then, we see again the two great principles of belief-engenderment illustrated, the emotional principle in a direct manner, the rational principle indirectly.

In my work, so far, I have elucidated these two principles in a number of ways. I have shown that the belief of the little child in the reality of fairy-land is largely emotionally induced. In later childhood, these beliefs are corrected by the maturation of the rational processes or the consideration of things in their object- rather than ego-relation. I have shown that youthful belief in heroes is also emotionally induced and then rationally corrected. I have shown that in normal human adults, in whom the rational process has reached maturity, under certain circumstances purely emotional beliefs are formed, and that their formation coincides with a constriction of the rational process. I have shown that in a psychotic state, under the influence of a toxine a general disintegration of personality ensues, and that this predicament represents a temporary reversion to primitive emotional determinance of beliefs, rendered possible by a transitory impairment of the rational process. Finally, I have shown that in a second psychotic state, the state of the schizophrene, extensive false beliefs are emotionally induced, and enduringly retained due to a complete inhibition and deterioration of the rational impulse.

This concludes the first part of my thesis dealing with the agents which engender belief in man. I shall continue by surveying the problem of beliefs as enduring mental dispositions guiding human conduct.

CHAPTER XII

The Individual Memory-Continuum of Man

> Memory, the warder of the brain.
>
> Shakespeare, *Macbeth*, Act. I, sc. 7.

IF THE THEORY of instincts as the basis of personality is valid, it implies that man is guided by racial memory, for the instinctive appreciation of the ego-object-relation-to-satisfy-a-need, which constitutes the meaning sub-process of any special conation, is an item of knowledge acquired in the racial development, and a memory anteceding the beginning of the individual life-course. As man grows from infancy through adolescence into adulthood, the individually acquired memories become more and more the dominating guides of conduct—memories which more or less explicitly are recognized as memories of one's own past.

There are two connotations of the term individual memory-continuum. On the one hand, it connotes the consecutive revival of event after event of the past. In this sense the individual memory-continuum is a mode of experiencing. But the term memory-continuum also denotes enduring mental structure, or enduring disposition to think the past. Among the most important constituents of the individual memory-structure are the memory-dispositions to recollect total cycles of past conation, whether successful or failing.

A total cycle of conation is a complex affair that requires a careful analysis.

A total cycle of conation comprises every phase of mental process urged by a special conation between the moment of activation of a special impulse and the moment when, for the time being, the same impulse is brought back into quiescence. But the cycle includes more, for it also comprises any coinciding operation of general curiosity excited by the same event in the physical field which initiated the special conation—any phase of such activity between the moment of evocation of primordial curiosity and the moment when, for the time being, this impulse is again quiescent. Whether or not the time of

activation and the time of requiescence of the two impulses, the general and the special one, exactly coincide respectively we do not know. There is no compelling logical reason why they should, and there is fair psychological ground to believe that they do not.

The conscious processes of a special impulse have been discussed earlier (Chapter IV). They consist essentially in the emoving of a need and urge and in the meaning of an ego-object-relation-to-satisfy this need. To know, as a unit, a total cycle of conation involves conscious process over and above these: To begin with, it comprises the apprehension of the differentiated emotion resulting from the fusion of certain awareness symbols yielded by primordial curiosity (reacting to interoceptor neural event) with those yielded by the emoving sub-process of special conation; then, it comprises the differentiated perception resulting from the fusion of other awareness symbols yielded by primordial curiosity (reacting to exteroceptor neural event) with those yielded by the meaning sub-process of special conation; and, thirdly, it comprises the appreciation of two peculiar modes of experience which have not been dealt with before in this work, namely, satisfaction and dissatisfaction.

Whenever a purposive adjustment to an event in the physical field has been successfully accomplished, there ensues a peculiar feeling of satisfaction. This quality, I suggest, has to be explained, not as a result of the emoving process of a special impulse, but as the result of primordial curiosity outlasting the moment of requiescence of the special conation. As such, it would represent the awareness symbol of the adequate change in the physical continuum, established by the adaptive process; this awareness symbol being yielded by primordial curiosity continually sustained in activity by the latter change.

There are species in which instinctive organization is not wholly efficient innately. An organism of such species—man being one—might respond to a threatening event in the physical continuum, with an activity which is not adequate to the need of the organism. When, in such instance, the response has

been accomplished, the emotion of the secondary conation concerned takes on a peculiar quality that can be best described as dissatisfaction or disappointment. This quality, terminologically and, in a sense, psychologically, the opposite of satisfaction, is far more complex than the latter; for in it the emotion of the unsuccessful secondary conation remains a component, blending indiscriminably with an additional quality (X) that is never experienced alone. This (X) represents that which is, strictly speaking, the psychological opposite of satisfaction, being, I suggest, the conscious expression of primordial curiosity reacting to the change in the physical continuum represented by the inadequate adjustment of the failing special conation.

Satisfaction and dissatisfaction enter into the apprehension of total cycles of conation, in the successful and the failing cycle respectively. Finally, there enters into the latter apprehension—this being the most important of all—the synthetic appreciation of the inter-relation of all the above-mentioned conscious components of the cycle, an appreciation of relations which is far more complex than the simple knowing of the ego-object-relation-to-satisfy-a-need, educed by the sheer meaning process of the special impulse.

I suggest, with reservation for the case of a failing special impulse, that the inter-relation in question cannot possibly be comprehended until the special conation has discontinued. This proposition has a simple logical ground; namely, that the individual components in the inter-relation arise and become fully differentiated at different stages in the progress of the cycle—the one of the final adjustment manifesting first after the latter adjustment has been accomplished. As the inter-relation of the components cannot very well be appreciated until they all have attained their final distinction, the comprehension concerned must be performed in immediate retrospection subsequent to the completed adjustment, this retrospection being the simplest manifestation of individual memory process. I suggest further that the latter process, yielding the awareness of the total inter-relation of the conscious symbols of the cycle—being distinctly a process of comprehending object-

object relations—is urged and educed by primordial curiosity outlasting the moment of requiescence of the special conation or, in the case of unsuccessful conation, the moment when, though not fully inert, the special impulse has ceased to contribute any new awareness symbols. As may be remembered, in the instance of unsuccessful conation, the final awareness symbol, dissatisfaction, comprises the quality yielded by the continuing emoving process of the special impulse.

To re-state concisely the theory here propounded: the appreciation, in terms of awareness symbols, of the inter-relation between all the components in a cycle of mental activity is the result of primordial curiosity sustained by the adjustive change of the cycle. This impulse urges an immediate retrospection upon all the symbols in their final distinction yielding the distinct comprehension of their causal inter-relation: the latter comprehension being the expression of the fundamental function of primordial curiosity in its simple as well as in its more developed stage, notably the function of appreciating relations. This, I believe, is a possible interpretation of the way in which cycles of conation become known as units. As such, they are confined to the individual memory-continuum, being in all respects the most important constituents of the latter.

There is a law concerning the activation of the individual memory-continuum which I have slightly touched upon earlier. This law I have called the *law of affinity of cognitive dispositions*. It was briefly stated in Chapter V as follows: Any important unit of the individual memory-continuum, that is, any disposition to think or to mean a past conative cycle, is prone to become activated whenever the special impulse is again at work which originally urged the cycle in question. In other words, whenever a special impulse is initiated, this impulse will activate not merely the mental structure in which is retained the apprehension of the (EO)-relation-to-satisfy-its-need; it will expand also into the memory-continuum, selecting and exciting all cognitive structure that has been built up around and by its own earlier activity. This denotes that the meaning process of special conation comprises a more or less

explicit survey of selected parts of past experience, a process of expansion of the utmost importance in the guidance of present conduct by bygone experience. This review is a review not only of earlier success but also of earlier failure in attaining the very end which is the goal of the present impulsive endeavor. The fusion of items of memory with experience directly excited by present physical event constitutes a higher level of perception, or apperception in a sense akin to, but not identical with, Herbart's conception of the latter process.

The law of affinity of cognitive dispositions applies not merely to special conation, but also to primordial curiosity. Primordial curiosity co-operates with special impulsion in every conative cycle and is a part of the conjoined conation urging the latter. From this follows, that, whenever at work, primordial curiosity itself is prone to activate the memory-continuum, but, as it has participated in all past conation, it may revive any part of the individual memory-continuum, not being confined, like the special impulses, to a selection.

The exploration of the past by dominating primordial curiosity yields a peculiar kind of memory-experience. It is a calm, unemotional review of the bygone in which the relation of event to event is the foreground consideration rather than the relation of event to the remembering self. We approximate this experience when, idly reclining, uncurbed by any practical preoccupation, we are solely reminiscing. McDougall has suggested to me in conversation that there is possibly an occasion when this experience is even more pure. That is the case of the rapid review of one's own whole life, claimed to be experienced by people facing death—at a moment apparently when any struggle for self-preservation has completely ceased. I believe also that the reminiscing described as follows in Remarque's novel *All Quiet on the Western Front* has some resemblance and kinship with the memories just referred to:

[Paul in the trench:] Between the meadows behind our town there stands a line of old poplars by a stream. They were visible from a great distance, and although they grew on one bank only, we called them the poplar avenue. Even as children we had a great love for them, they drew us vaguely thither, we played

truant the whole day by them and listened to their rustling. We sat beneath them on the bank of the stream and let our feet hang over in the bright, swift waters. The pure fragrance of the water and the melody of the wind in the poplars held our fancies. We loved them dearly, and the image of those days still makes my heart pause in its beating.

It is strange that all the memories that come have these two qualities. They are always completely calm, that is predominant in them; and even if they are not really calm, they become so. They are soundless apparitions that speak to me, with looks and gestures, silently, without any word—and it is the alarm of their silence that forces me to lay hold of my sleeve and my rifle lest I should abandon myself to the liberation and allurement in which my body would dilate and gently pass away into the still forces that lie behind these things. . . .

Their stillness is the reason why these memories of former times do not awaken desire so much as sorrow—a strange, inapprehensible melancholy. Once we had such desires—but they return not. They are past, they belong to another world that is gone from us. In the barracks they called forth a rebellious, wild craving for their return; for then they were still bound to us, we belonged to them and they to us, even though we were already absent from them. They appeared in the soldiers' songs which we sang as we marched between the glow of the dawn and the black silhouettes of the forests to drill on the moor, they were a powerful remembrance that was in us and came from us.

But here in the trenches they are completely lost to us. They arise no more; we are dead and they stand remote on the horizon, they are an apparition, a mysterious reflection drawing us home, that we fear and love without hope. They are strong and our desire is strong—but they are unattainable, and we know it.

And even if these scenes of our youth were given back to us we would hardly know what to do. The tender, secret influence that passed from them into us could not arise again. We long to be in them and to move in them; we long to remember and to love them and to be stirred by the sight of them. But it would be like gazing at the photograph of a dead comrade; those are his features, it is his face, and the days we spent together take on a mournful life in the memory; but the man himself it is not.

We could never again, as the same beings, take part in those scenes. It was not any recognition of their beauty and their

significance that attracted us, but the communion, the feeling of a comradeship with the things and events of our existence, which cut us off and made the world of our parents a thing incomprehensible to us—for then we surrendered ourselves to events and were lost in them, and the least little thing was enough to carry us down the stream of eternity. Perhaps it was only the privilege of our youth, but as yet we recognized no limits and saw nowhere an end. We had that thrill of expectation in the blood which united us with the course of our days.

To-day we would pass through the scenes of our youth like travellers. We are burnt up by hard facts; like tradesmen we understand distinctions, and like butchers, necessities. We are no longer untroubled—we are indifferent. We long to be there; but could we live there?

We are forlorn like children, and experienced like old men, we are crude and sorrowful and superficial—I believe we are lost.[1]

In memories such as those here discussed it would seem as if the main relation determining the progress of reminiscing were the temporal contiguity of the events recollected, the latter being the governing relation here apprehended by curiosity at work. Accordingly, we would have to say that, in the instances concerned, this general impulse functions on a very primitive plane. It is interesting that, in such type of reminiscing, we face—I believe the only time in the life of man—a phenomenon to which association theory would superficially apply.

In the act of cool, careful planning of progress towards an end, the attainment of which is remote or obstructed, sometimes the memory-continnum is explored by primordial curiosity in a manner nearly as passion-free as in the cases discussed. Yet, in such instance, there is always some purposive selection of memory items by special conation; for even the coolest planning inevitably represents the survey of means by which some special desire at work may become satisfied. Such selection is determined by principles far more complex than sheer association by temporal contiguity.

It is a noteworthy and interesting phenomenon that primordial curiosity, the impulse to ascertain relations, when exploring the memory-continuum, discovers the affinity between

[1] *All Quiet on the Western Front,* pp. 123-127.

units of the latter built around equivalent special conation and between the objects of the (EO)-relations of these units. This discovery is essentially the process of apperceptive synthesis or of meaning similarities. By this process psychological objects become grouped into categories, for which human language invents names. The names given to categories thus arrayed imply the basic qualification of each of these by special impulsion, names such as: edibles, dangers, lovables, valuables, vices, and so forth.

CHAPTER XIII

The Conative Property of Belief

> True hope is swift, and flies with swallow's wings:
> Kings it makes gods, and meaner creatures kings.
>
> Shakespeare, *Richard III*, Act V, sc. 2, l. 23.

OUR MEMORIES are comprehended by us as realities of the past. The events which we have experienced and in which we have participated, in recollection are believed to have taken place. Accordingly, we apprehend each total cycle of past conation as an object of belief. Sometimes we may be in doubt as to the correctness of some details of our memory. In such instance we may intentionally carry out the "compatibility test" upon the latter. That is, we investigate, as McDougall has pointed out, the measure in which the memory-detail harmonizes with other known events, past or present. The latter, as repeatedly stated, is a rational process —a viewing of the detail concerned in its centrifugal relation to a broader state of affairs and, consequently, a process urged by the rational impulse that is ultimately derived from primordial or general curiosity.

Our memories are apprehended as realities just as naïvely as the cognitive awareness symbols of present events in the physical world. That is, in this concern, they are on the plane with the ego-object-relation-to-satisfy-the-need of any one special impulse; with the object of the later relation as primitively apprehended by virtue of racial memory; with the same object as perceived through the fusion of the archetypal knowledge with exteroceptor sensory qualities elicited by primordial curiosity; and with the ego-object relation as modified through the perception of its object. In all these instances, just as in the instances of memory, the belief in the reality of the respective psychological object is a psychological ultimate that cannot be explained, merely acknowledged. Upon this, James Ward writes: ". . . besides present 'matters of fact' and immediately intuited 'relations of ideas' there is still one im-

portant class of experiences wherein belief may amount to certainty, viz. the memories of what as 'matters of fact' are past . . . no confirmation is possible that does not assume the validity of memory, either directly—as in the demand for other testimony—or indirectly—as in the appeal to the constancy of nature. . . . If this [the memory-continuum] is intact, it constrains us, as much as perception constrains us, to recognize a present reality, the reality of the past. In spite of the notorious deceptiveness of memory in many cases and the impossibility of *proving* it true in any case, this constraint or conviction is, we find, as complete in those instances of distinct memory as it ever is in perception. . . ."[1]

The current definition of the process of believing is as follows: to believe in something is to assert its reality or independent existence. If we adhere to the sound principle of using the verb to denote function and the noun to denote structure or enduring disposition, we logically arrive at a provisional definition of 'a belief'. A belief is an enduring disposition to mean a psychological object and, coincidingly, to assert its reality. It should be noted here that the term *psychological object* is a very broad one. Indeed, anything that the human mind can think (mean) in some kind of synthetic or unitary fashion is a psychological object, be it the pen with which I write, the relation between the sun and the moon in the ebb-and-tide phenomenon, or the philosophy of Spinoza.

The normal human mind comprises an extremely complex configuration of such dispositions. As McDougall writes: "The structure of every developed mind comprises a multitude of beliefs. Many of these concern particular things and events; these are either isolated or hang together merely in temporal sequences or spatial systems. When we speak of a man's beliefs, we usually mean beliefs of a more or less general nature; in every normal human mind, these are in some degree organized in systems. In the highly organized mind that we call a scientific intellect, this organization renders most of the general beliefs coherent and reciprocally supporting, like the stones of a dome of masonry."[2]

[1] *Psychological Principles,* pp. 351-352.
[2] *Outline of Psychology,* p. 414.

Is a belief merely a cognitive disposition? The current definition of the process of believing, notably: to believe in something is to assert its reality, suggests that the unit of structure underlying this process is more than a disposition to think an object. There is one further psychological, and one logical reason to assume that a belief is more than a disposition to think. The former is the undeniable psychological fact that beliefs guide conduct.

It is surprising that psychologists, although they have recognized this phenomenon as an evident psychological reality, have failed to see that it constitutes a psychological problem of the utmost significance and difficulty, and, accordingly, have offered no explanation or even attempt of explanation of the latter. Thus, for instance, James Ward writes: ". . . As regards action, much has been written about the effect of belief upon it; and yet all that is of essential importance is very simple and very obvious. A sane man, and even an insane one, unless his disease is apathy, acts as he believes. He may indeed venture to act in cases where he is uncertain, but his venture is always backed by some belief and never diametrically opposed to all his beliefs. Of course we may believe with complete certainty without at once acting or even resolving to act later; yet the efficacy of such belief, always holds good potentially, and will shape our actions whenever it is relevant. . . . 'Faith without work is dead' we say and we distrust a man who has not the strength of his convictions. This strength or intensity of conviction, however, is not to be confounded with the certainty of belief: it is the practical consequence of—the 'confidence' begotten by—this certainty, and therefore presupposes it. But if the subject, who is convinced, were merely a 'logical ego' and nothing more, these secondary emotional and practical consequences of belief, which make it a living fact, a complete 'state of mind,' would be non-existent."[3] With this Ward's discussion terminates. He submits no further comments in explanation of this most important phenomenon of human conduct; neither, to my knowledge, do any other psychologists.

Before Ward, Alexander Bain had forcefully proclaimed

[3] *Psychological Principles,* pp. 353-354.

the energetic character of belief. He defines belief as "preparedness to act." In his essay on belief, which constitutes, perhaps, the best thing he has ever written, he says:

Preparedness to act upon what we affirm is admitted on all hands to be the sole, the genuine, the unmistakable criterion of belief. Columbus shewed his belief in the roundness of the earth, and in the existence of an unbroken ocean between Europe and the east coast of Asia, when he undertook his voyage. . . .

The readiness to act is thus what makes belief something more than fancy. We may act upon very imperfect knowledge, but that knowledge must be believed by us. We may have perfect knowledge without acting on it; much of our highest theoretic knowledge is seldom reduced to practice. The reason is, not want of faith, but want of opportunity. The preparedness to act is still the only test of this highest kind of knowledge. . . .

. . . in the pursuit of our ends, if we work as strongly for the means, as we do for the end, we have a perfect confidence in the connection of the two. Our belief that money will feed, clothe, and otherwise gratify us, is proved by our working for money, with all the force of our wish to be fed, clothed, and gratified. A sick man has little faith in a remedy, if he will not take all the trouble to procure it, that he would do to be made well. . . .[4]

Literary statements as to the energetic character of belief exist in abundance:

Strong beliefs win strong men, and then make them stronger (Walter Bagehot, *Physics and Politics,* p. 76).

Fields are won by those who believe in the winning (T. W. Higginson, *Americanism in Literature*).

Skill and confidence are an unconquered army (George Herbert, *Jacula Prudentum*).

Faith is the root of works. A root that produceth nothing is dead (Bishop Thomas Wilson, *Maxims of Piety and of Christianity*).

> Faith without works is nothing worth,
> As dead as door-nail unless deeds follow.
> (Langland, *Piers Plowman,* Pt. II, l. 183).

Where there is no hope, there can be no endeavour (Samuel Johnson, *The Rambler,* No. 110).

[4] *The Emotions and the Will,* pp. 505-510.

To hope till Hope creates
From its own wreck the thing it contemplates
(Shelley, *Prometheus Unbound,* Act IV, l. 573).
Work without Hope draws nectar in a sieve,
And Hope without an object cannot live.
(S. T. Coleridge, *Work Without Hope.*)

'Tis hope supports each noble flame,
'Tis hope inspires poetic lays;
Our heroes fight in hopes of fame,
And poets write in hopes of praise.
She sings sweet songs of future years,
And dries the tears of present sorrow;
Bids doubting mortals cease their fears,
And tells them of a bright to-morrow.
(Thomas Jefferson, *To Ellen,* in his Literary Bible).
Great hopes make great men (Thomas Fuller, *Gnomologia*).

In *Conation and Our Conscious Life* I have adopted the view that the most plausible explanation of guidance in general is that guidance consists in the influence of impulse upon impulse, more especially in the checking or correction of behavior urged by one impulse through the influence of another, also in the promotion of behavior urged by one impulse through the influence of another. If this general conception of guidance, which represents the ultra-hormic interpretation of the phenomenon in question, is valid, then it follows that a belief in function must signify an independent mode of conation that can exert the correction or promotion concerned. A belief, then, would be more than a cognitive disposition, for it would be a potentially energetic unit of mental structure, or a cognitive-conative disposition.

The logical reason for assuming that a belief is more than a cognitive disposition arises from the fact that all objects of belief, that is, all realities, constitute a category of things recognized by man to be similar in the important respect that they are real.

In the previous chapter I have briefly discussed the process of apperceptive synthesis. This process yields the meaning of similarities and results in the grouping of psychological objects into categories of things. Each thing of any one cate-

gory was characterized by the fact that it entered as the object of the (EO)-relation-to-satisfy-the-need of the same kind of special impulse. In other words, the sign of similarity between the objects of any one category was its relation to the same mode of special conation. The discovery of the similarity manifested in the grouping, was held to be the reflection of primordial curiosity exploring the memory-continuum.

If it is generally true that, naïvely, the similarity of objects, comprehended as alike, is due to their common relation to an impulse, we would expect that all the psychological objects which are comprehended as alike in the respect of being each a reality, would also naïvely be co-ordinated by their common relation to a special mode of conation. The fact that the category of things known as realities is a very inclusive one, comprising the majority of things known, would not, logically, be hostile towards such expectation. This consideration, then, again urges us to search for the mode of conation which belief represents.

There are two possibilities of answer to this question which offhand offer themselves: The first of these is that the conation of a belief is the same as the conation of the special impulse which was responsible for its engenderment. This proposition fails on two grounds: (1) It leaves unexplained all those, perhaps most important, beliefs which are engendered by the rational consideration of object-object relations and prompted by primordial curiosity functioning on a high plane. (2) It would inevitably result in all beliefs falling apart into groups such as edibles, vices, dangers, lovables, and so forth; in other words, it would be the very condition preventing the appreciation of all realities as one category of things.

The second answer to the question as to what mode of conation a belief represents, would be that the impulse which makes belief a guide of conduct is the primordial impulse of curiosity. This proposition, in its turn, fails on two grounds: (1) It fails to account for those beliefs which are largely emotionally engendered and yet in millions of people endure throughout life—what I have in mind being especially the religious beliefs. (2) It is against the postulated nature of primordial curiosity, even in its most advanced manifestations—the nature of the latter impulse being merely to comprehend relations.

We are, then, compelled to assume that when an enduring belief is established, no matter what impulse is responsible for its engenderment, this belief as a persisting unit of mental structure, is a thinking-striving disposition characterized by its own specific mode of conation.

A semi-philosophical speculation will guide us to a hypothesis concerning the identity of the latter conation.

As has been stated earlier, all meaning symbols of events in the physical world are naïvely comprehended as realities, this being equally true of the immediately known object of the (EO)-relation-to-satisfy-a-need and of the same object as perceived or apperceived by further differentiated meaning process. The category of things denoted as realities is, consequently, a widely inclusive one, comprising the major part of all psychological objects apprehended. From this we may infer that the conation yielding the meaning of reality must be one that dominates mental life in a very broad sense; indeed, it must be equal to primordial curiosity as regards wide-reaching significance. I suggested, in *Conation and Our Conscious Life,* that the conation in question is a primordial impulse that we might call the impulse of general deference, and which, together with primordial curiosity and sleep, might be regarded as the most fundamental and most broadly significant of all differentiated impulses.

In the introductory chapter of the work referred to, I suggested that all adaptation of living organisms is of one or the other of two kinds with allowance for compromises. These were deferent adaptation and adaptation through control. The former, broadly speaking, consists in the adjustment of the organism to a physical event; the latter, in the adjustment of a physical event to the organism. I used the following inadequate simile to illustrate the two processes. A child, wanting an orange, might stretch his body to the utmost in order to reach it. This would be comparable with deferent adaptation. Another child, in order to reach the orange, might bend the branch upon which it is suspended until it is easily accessible—a behavior that would be an instance of adaptation through control.

In the same work, I also submitted the following reflection in support of my postulation of a primordial impulse of defer-

ence. Throughout the animal kingdom, the number of occurrences of adaptation through control, as compared with the number of occurrences of deferent adaptation, is like the figure (1) to an astronomical figure. Superficially, man might seem to be able to exert a considerable control of the physical world; yet a closer consideration reveals that what is actually controllable is merely an infinitesimal fraction of the events in the physical continuum. Yet, man is supreme among living beings; what is controllable by infra-human living organisms is merely a minute fraction of the domain mastered by man. The truth of these statements is brought into relief when we consider events in the physical universe, such as the diurnal cycle of day and night, the annual seasonal cycle, or processes such as those determining the chemical composition of the atmosphere of the globe, and others. All these events and processes are occurrences in the physical continuum to which living beings are able to adapt themselves only by deference. In view of these considerations, it would seem biologically natural that in the evolution of species on a very low level of life there would differentiate—to become powerfully dominant of adaptive behavior throughout later evolution—a strong primordial impulse of general deference.

Primordial or general deference, like primordial curiosity, is called into activity by events in the physical world. The two impulses are always evoked together, both co-operating with special conation whenever a special impulse is at work. Primordial deference yields to the meaning symbols of the complex mental activity the attribute of reality.

If to believe in something is to assert its reality, as is implied in most current definitions of belief, it follows that the psychologically real object is identical with the object of belief. From this follows, in turn, that the conation conferring on an object the property of "object of belief" is the impulse of primordial deference. It should be noticed that belief in an object does not prevent one from a certain measure of manipulation of—even destructive impact upon—it. Such reactions signify a compromise between defiant and deferent attitudes toward the object. Even to the object we destroy we defer as regards its property of being destructible; that is, we

believe in the object as the seat of that attribute. Deference, indeed, enters into the very comprehension of any psychological object.

Whenever, from the naïve sphere of reality of the primitive mind, such as that of the little child, certain psychological objects by rational consideration are sifted out as non-realities, this means that deferent impulse is detached from these objects; and whenever in adulthood new beliefs of the higher type which we may call relational beliefs are formed through rational process, this means that deferent impulse has become attached to certain propositions. Or when in adulthood false beliefs are formed by emotional induction and deterioration of rational process, this again means that deferent impulse has become attached to questionable propositions. The statements in the present paragraph are only descriptive. The essence of them is that, independent of the nature of the impulse which overthrows or engenders a belief, the giving up of a belief constitutes a detachment from a psychological object of deferent urge—the establishment of a belief, the attachment to a psychological object of deferent urge. I fail to explain this phenomenon; my view, however, has close resemblance to Freud's notion of withdrawal of libido from objects and ideas, and investment of objects and ideas with libido; it has also resemblance to very important aspects of McDougall's theory of the formation of sentiments, particularly to the substitution of primitive goals by higher ones. Neither of these two writers, as far as I can see, has brought our understanding of the facts beyond description.

The theory of belief here propounded conceives each belief as an impulsive agent, a directed force, which may enter as a component in any conative pattern, joining its energy with the energies of any other conative disposition in function, be the latter an instinct, a sentiment, or a complex of integrated sentiments.[5]

[5] My esteemed colleagues of the exclusive psychological sect of Kurt Lewin will, no doubt, appreciate this interpretation of beliefs, for it permits the latter to be spoken of in terms of vectors, a mode of speech which seems to be a sore and vital concern to this group of psychologists. They may also represent my beliefs diagrammatically as irregularly distributed arrows in a field—another of their cardinal concerns.

CHAPTER XIV

Belief as a Guide of Conduct

He does not believe that does not live according to his belief.
Thomas Fuller, *Gnomologia.*

IN THE PREVIOUS chapter I stated my attitude towards the problem of mental guidance of conduct in general. It seemed to me as if guidance of conduct could be best interpreted as the influence of impulse upon impulse; more especially, on the one hand, as a correction by one impulse of the behavior urged by another, and, on the other hand, as a promotion by one impulse of the behavior urged by another; this view being the most strictly and consistently hormic one that could be designed.

In the present chapter I shall endeavor to show how—conceived in accordance with the hypothesis I have outlined—beliefs can effect guidance of conduct—the process of guidance understood as above.

I have repeatedly called attention to the fact that, naïvely, any meaning symbol of an event in the physical field is comprehended as a reality, that is, as a psychological object of belief, this being due to racially inherited mental organization. Belief is thus incorporated into the immediate knowing of the object of the (EO)-relation-to-satisfy-a-need. Belief is incorporated in the perception of the latter object. The (EO)-relation-to-satisfy-a-need, itself, is a psychological object of belief. The more complex inter-relation of awareness symbols, comprised in the synthetic comprehension of a total cycle of conation, is an object of belief. As an object of belief, this unit of experience is confined to the memory-continuum, and, as an object of belief, it is again comprehended in recollection. The latter, which is clearly evinced by human introspection, is of utmost importance, for it implies that the significant units of the memory-continuum are not merely cognitive dispositions, as we described them earlier, but meaning-striving dispositions,

their conative constituent being primordial deference. If that were not so, memory would not be able to guide conduct.

As a general proposition, the guiding power of belief derives from the fact that the primordial deference, yielding reality to the psychological objects significant in the course of conation, might either support or conflict with other impulses of the cycle. This we shall later illustrate by presenting the simplest possible case of guidance by memory.

Guidance of conduct by memory is intelligent process par excellence; it is of dominating importance in all species in which, innately, the instinctive organizations are not solidly defined. In such species the activities urged by a special impulse are not precisely determined. In other words, the immediately known object of the (EO)-relation-to-satisfy-a-need might fuse, on different occasions, with different configurations of exteroceptor sensations, leading to perception which is sometimes adequate, sometimes inadequate, as a guide in adaptation to physical events. The perfection of instinctive organization is proportional to the degree of adequacy with which the externalization of this immediately known object through fusion with exteroceptor sensations (perception) guides the organism to a reaction that proficiently achieves a biological end; or, in other words, the perfection of the instinctive organization depends upon the fusion of the immediately known object with a configuration of unlikes actually symbolizing that which, in the external world, represents the point of attack adequate to successful adjustment, this evidently being the only fusion that guides to satisfactory adaptation. High perfection of instinctive organization is found only in a few species, such as certain insects; in most others, particularly in the higher animals and conspicuously in man, instinctive organization is far from perfect. Thus, for instance, under the dominance of the food-seeking impulse, the human child will project the immediately known object of the (EO)-relation-to-satisfy-the-hunger-need into inadequate configurations of unlikes as distinguished by virtue of primordial curiosity. Accordingly, it will react with hunger behavior to a variety of objects which are not proper food-objects. It is in species of deficient instinctive organization that intelligent adaptation through learn-

ing becomes important and takes the place of purely instinctive adaptation.

To aid the understanding of the simple formula of guidance of conduct by memory, it is well to keep in mind the following propositions:

I: Every meaning symbol yielded during the course of a cycle of conation is apprehended as a reality or as an object of belief.

II: The property of a meaning symbol of being real, or the object of belief, is yielded by primordial deference called into play by an event (X) in the physical field, the event for which the meaning symbol stands.

III: Whenever belief is experienced during mental activity, it signifies the addition of primordial deference to the impulses already at work in the cycle.

IV: As a general proposition, the entrance of an additional impulse into a complex conation causes additional energy to be expended in the effort. This does not necessarily facilitate the attainment of an end, for the new impulse does not necessarily support the prior ones; it may rather conflict with them.

V: In the case of the ideal instinct the deference of belief, joining into the conation, always supports the special impulse, a co-operation that is reflected in the fact that the (EO)-relation-to-satisfy-a-need, as an anticipatory belief in success, when realized always leads to satisfaction—this being due to fusion of the immediately known object of the (EO)-relation with adequate awareness-symbol yielded by primordial curiosity.

VI: It follows from point V that, in the ideal instinct, energy from three sources co-operates in carrying the organism to its goal: energy from special conation, from primordial or general curiosity, and from primordial or general deference.

With these six maxims in mind we may proceed to the simple example of guidance of conduct by memory.

Suppose a certain impulse (I) progresses inadequately, failing to attain its goal, a reaction that we shall call (RF). The comprehension of this conative cycle as a unit of unsuccessful mental activity, according to my previous discussion, is yielded by primordial curiosity, the comprehension of the latter unit as an object of belief being yielded by primordial deference. Confined to the memory-continuum, this unit constitutes a meaning-believing disposition; that is, a disposition to think as a reality the course of failure. We shall call this disposition the memory disposition of failure or (MDF).

Suppose, further, that the unsuccessful special impulse immediately after the failure (RF) urges a new activity (RS) which is successful and adequate to the need of the organism. This new successful cycle is comprehended as a unit through primordial curiosity and as an object of belief through primordial deference. As such, it is confined to the memory-continuum as a second meaning-believing disposition, the disposition to think as a reality the course of success (MDS).

Let us assume that these two reactions of the special impulse, (RF) and (RS), are the only ones possible. Such supposition implies that, while the immediately known (EO)-relation-to-satisfy-a-need, and the immediately known object of this relation, remain constant, there are two configurations of exteroceptor sensory unlikes with which the awareness of the latter object might blend, each yielding one of two perceptions (PF) and (PS); (PF) leading to failure and (PS) guiding to success. Both the perceived objects, at the time of their perception, represent objects of belief. As, in turn, each of them enters as a component in the immediately known (EO)-relation-to-satisfy-a-need, the latter becomes modified and differentiated into two, each being the issue of a specific process of perception, the erroneous perception (PF), and the correct one (PS). The first time they are experienced, both (EO)-relations, which we shall call (EO-PF) and (EO-PS), are objects of belief. Each belief, at that time, comprises the anticipation of success, (EO-PF), consequently, comprising a false belief or delusion.

Suppose that some time later the special impulse (I) is again called into activity by an event in the physical field

similar to that which activated it on the earlier occasion. The impulse immediately urges the meaning of an (EO)-relation-to-satisfy-its-need. But, due to the affinity of cognitive dispositions built around equivalent conation, it also activates the memory-continuum, more especially the two meaning-believing dispositions (MDF) and (MDS); that is, the dispositions to think as realities the course of failure and the course of success of impulse (I). Let us assume that the subsequent reaction in the unrolling of the latter impulse tends towards the erroneous perception (PF), towards the delusional belief in success of the (EO-PF)-relation, and, consequently, towards expansion into the inadequate end-reaction (RF). Such direction of impulse (I) is immediately counteracted and, perhaps, fully inhibited by the deferent impulse of the activated (MDF), the memory disposition to think as a reality the course of failure of (I). This route blocked, the impulse (I) seeks outlet into the second alternative one: through the correct perception (PS), the adequate belief in success of the (EO-PS)-relation-to-satisfy-the-need, into the proper end-reaction (RS). In this instance, the deference of the activated meaning-believing disposition (MDS), the memory disposition to think as a reality the course of success of (I), co-operates with the new trend of the impulse, adds its energy to the energies of the latter, thus enhancing and promoting adequate adjustment to the instigating physical event.

Let us now, through an example, attempt to make concrete and meaningful this abstract formula of mental guidance by memory. A man—no matter what impulse urges him—strives to reach a little village where he has never before been. He has started out following a road that has been indicated to him as leading to the village, and confidently he plods along for a while. Suddenly he arrives at a place where the road divides into a fork. He has not the slightest idea whether he should proceed right or left. Taking his chance, he chooses to walk on to the left (RF), but after an hour he finds himself on the shore of the ocean where the left road ends. The desire to reach the village he has set out for is still urgent, and, as a consequence, he retraces the last hours' march on the left road, comes back to the fork, and, then, continuing his walk to the

right (RS), he finally reaches his goal, the village. Many years later the same man is again on the same road in order to visit the same village. Again he arrives at the fork, and for a moment he hesitates which way to go. But, while his judgment is suspended, his memories of the earlier journey become more and more distinct; and soon he clearly recollects that the left road takes him to the ocean side while the right one points straight to the village. Consequently, he chooses the latter. What occurs in his mind psychologically is this: His deference to the clearly remembered fact that the left route leads to the ocean (MDF) conflicts with the general impulse urging him to the village. It thus rectifies any inclination on his part to choose it again. At the same time, his deference to the equally clearly remembered fact that the right route takes him directly to his goal (MDS), joins forces with the primary impulse urging him towards the latter, and thus assists the corrective function of his first belief. As the final outcome of the process set forth, he avoids the left road (RF) and follows the right (RS).

I have described and illustrated in the simplest terms possible what I believe to be the prototype of all guidance by memory. There are, no doubt, occasions when one single failure in the past does not suffice to inhibit a new inadequate reaction, but where several failures are required in order to establish the enduring corrective belief. In such instances, each failing cycle of activity is confined to the memory-continuum as a meaning-believing disposition, this assumably causing an accumulation of deferent energy of belief, an accumulation that sooner or later reaches a measure of strength sufficient for the deference to inhibit later inadequate tendencies of the common central impulse. There are also instances when the impulse is offered more than two routes of expansion; indeed, there might be a number of both adequate and inadequate reactions possible. However, the guidance by memory would always follow the formula laid down for the simple case; the difference being merely that each (RF) is counteracted by one or more memory-units of its own kind, just as each (RS) is supported by one or more such memory-units of its kind. The crux of the guiding process always remains the same: adequate

conflict with, and adequate support by deferent energy of belief.

It is possible that the so-called 'plateau' which has been observed in the learning curves of men and animals coincide with the period of time when energy of a distinctive corrective belief is accumulating. This would presuppose that overt correction of conduct is to some degree an all-or-none effect, a supposition which might seem debatable but which possibly is supported by two experimental observations:

I: In the case of white rats learning a task, there can often be noticed a prolonged period of trials resulting in no improvement of performance whatsoever, 'the pre-learning period'; then, apparently, the mastery of the task occurs suddenly with nearly immediate perfection (achievement).

II: Experiments, also with white rats, have indicated that during the 'pre-learning period', before any improvement in overt performance has been manifested, some change promoting final mastery of the task takes place in the animal. Though not expressed in the performance of the task at hand, this change will show itself if a transposition or a reversal of the task is effected. I refer here to the interesting experiments of Drs. T. L. McCulloch and Gaither Pratt.[1]

Each psychological object apprehended by man is apprehended, I believe, in one or the other of four different ways: (1) as a goal-object of an impulse, (2) as a means of goal-attainment, (3) as an obstacle to goal-attainment, and (4) as an aesthetic-logical object. The only exception from this rule that I can see is the passive indifferent apprehension of one's past, described in Chapter XII. The majority of psychological objects, on different occasions, may each be apprehended in any one of the ways stated. The characteristics of the psychological object apprehended as a goal have been amply illuminated in the present work; the characteristics of such object as aesthetically-logically apprehended will be discussed in a later chapter. Here it is pertinent to the problem of guidance by

[1] "A Study of the Pre-Solution Period in Weight-Discrimination by White Rats."

belief to consider the psychological nature of means and obstacles.

It seems to be an irrefutable psychological principle that, whenever a special impulse is at work, events in the physical field, which during the state of quiescence would have called into play other impulses, fail to do so. This phenomenon has probably its explanation in drainage of energy. The collateral events referred to presumably excite other impulses, but already at the primary stage of general effervescence the energy of the latter is drained by the impulse at work into its own channels; in other words, due to drainage, the energy of the new impulses fails to irradiate into emoving, meaning, and moving sub-processes adequate to their own purposes. The latter assumption seems to be unavoidable; for it is, I believe, the necessary condition of drainage. Drainage from one instinctive organization into another can only be drainage of active energy. Consequently, we have to assume that at the moment of the drainage free energy exists in the system from which drainage takes place. The existence of free energy in an instinctive system, collateral to the one exerting the drainage, in its turn, is conditioned by the activation of the former by a collateral event in the physical field; for activation of a mental system is essentially the process of converting potential into free energy.

The restriction implied in the principle stated is not valid with regard to primordial curiosity and primordial deference, for these impulses co-operate continually with the special conation. But, in addition, they react to all collateral events in the physical field which are related in some manner to the adjustments urged by the special conation. Such related collateral events may be of two kinds: either events that counteract, in a purely physical sense, the adjustment or events that further the latter. These events, due to their activation of primordial curiosity obtain their own meaning symbols, being comprehended respectively as obstacles and means. Due to their simultaneous activation of primordial deference, the obstacles and means become psychological objects of belief.

The awareness of obstacles and means, yielded merely by primordial curiosity exploring the physical field and by pri-

mordial deference, is probably a comparatively indistinct meaning experience, a kind of diffuse archetypal intuition (an undifferentiated something). Yet, in a sense, it is comparable with the immediately known object of the (EO)-relation of a special impulse, the latter, however, being probably more differentiated even in its purely archetypal phase. The further elucidation of obstacles and means is not essentially a process of perception, as was true with regard to the object of the (EO)-relation, but a process of apperception. By this it is implied that the differentiation of their more distinct properties derives from past individual experience. The primordial curiosity, yielding primarily the archetypal intuition based on racial memory, coincidently with the exploration of the physical field, activates the individual memory-continuum, performing an apperceptive synthesis by which the presently comprehended obstacles and means fuse respectively with obstacles and means of the past. As the latter, being components in total cycles of earlier conation, have been committed to the memory-continuum in their full distinction and significance, this fusion yields to the presently dimly known obstacles and means distinctly differentiated attributes. The most conspicuous qualification of obstacles and means, however, is probably due to the synthesis of the latter with objects which, in earlier conative cycles, have been goal-objects or accessories of such and thus have become enriched by perception and independent apperception; a synthesis that is likely to ensue whenever an object which on earlier occasions has been a goal is presently a means or an obstacle to an end. The individualization of obstacles and means by apperceptive process is always based upon the activation of the individual memory-continuum; while—though it is difficult to support psychologically—the very first diffuse recognition of obstacles and means, as a matter of logic has to be thought of as founded in racial memory, just as the immediate apprehension of the object of the (EO)-relation-to-satisfy-a-need.

It is interesting to note that, most primitively, the awareness symbol of the physical event (X) that counteracts adaptive effort is the sensation of superficial and of deep pressure—or its preneural equivalent. This being true, the latter sensations are the only

ones of all so-called sensations that do not immediately and naïvely fuse with experience arising from special conation; though assumably they are initially related both to the self and to the object of the (EO)-relation of some special impulse. This primitive pressure sensation, yielded by primordial curiosity, enters into fusion with otherwise excited meaning only in so far as the event (X) that it stands for calls up—sufficiently strongly to inhibit the impulse obstructed—the special impulse of anger, when it becomes a constituent of the anger-object perceived.

Characteristic of the obstacle, the meaning symbol of that physical event (X) which counteracts the purposive adjustment of special conation, is that the deferent impulse yielding its reality conflicts with the latter conation, deadlocking or hindering its motor expansion. This leaves the organism in a state of desire which throws primordial curiosity into intensive exploration of the memory-continuum in search of a solution of the dilemma. The latter switch of emphasis, which accounts for the object-object consideration expressed in the planning that is so conspicuous in desire, is probably explained by drainage of energy from the blocked special impulse into the free primordial impulse.

Characteristic of the means-object, the symbol of that physical event (Y) which furthers the purposive adjustment of special conation, is that the deferent impulse yielding its reality supports the central conation, adding its energy to the energy of the latter, thus enhancing effort and promoting rapid and successful adjustment.

It is important to note that the physical event (X), comprehended as an obstacle, is an event which, in a physical sense, thwarts the reaction urged by a special conation. Consequently, its meaning symbol, the obstacle, even in its most archetypal form, is actually an object-object relation like all relations comprehended by primordial curiosity. More especially, it is the relation of a psychological object (O^1) to a second psychological object, notably the complex one: (EO)-relation-to-satisfy-a-need. Thus, whenever, during goal-seeking activity, an obstacle becomes known, we have to deal with two psychological objects, on the one hand, the ((O^1)-(EO))-relation or the obstacle, on the other hand, the (EO)-relation. Each of these,

due to the evocation of primordial deference by the (X) and (Z) in the physical world, for which they respectively stand, are objects of belief; and it is the conflict between the two deferent impulses of the latter beliefs that characterizes obstructed mental endeavor. There are peculiar instances, during such conflict, when the $((O^1)\text{-}(EO))$-relation suddenly turns into an (EO^1)-relation. This is the case when the impulse of the pugnacity instinct is evoked by (X), the physical event comprehended earlier as an obstacle. This state of affairs probably represents a temporary discontinuance of the obstructed special conation and a substitution of the latter by a new special impulse, notably the impulse to destroy the obstacle. The psychology of the latter substitution is at present not fully understood, and no further comments upon it can be offered here.

It is equally important to note that the physical event (Y), comprehended as a means-object, is an event which, in a physical sense, furthers the purposive adjustment urged by a special conation. Consequently, its meaning symbol is again an object-object relation, notably an $((O^2)\text{-}(EO))$-relation. Thus, in the means situation, we have also to deal with two psychological objects, on the one hand, the one just mentioned, and, on the other hand, the (EO)-relation-to-satisfy-the-need of the special impulse. Each of these, due to the evocation of primordial deference by their respective physical instigators, (Y) and (Z), is again an object of belief; but, in the instance of goal-seeking endeavor promoted by collateral physical event, the two deferent impulses, instead of conflicting, co-operate towards the realization of the biological end of the special conation.

There is a certain similarity, on the one hand, between the obstacle and the activated memory-unit we denoted as (MDF), that is, the disposition to think as a reality the course of failure of an impulse and, on the other hand, between the means-object and the activated memory-unit we called (MDS), that is, the disposition to think as a reality the course of success of an impulse. In fact, (MDF), in a sense, might be considered an obstacle; (MDS), a means-object. Basically the similarities referred to consist, in the one instance, in the fact that both

the obstacle and the meaning yielded by (MDF) are comprehended as realities by virtue of deference conflicting with and deadlocking the expression of a special impulse and, in the other instance, in the fact that both the means-object and the meaning yielded by (MDS) are comprehended as realities by virtue of deference supporting and strengthening the expression of a special impulse.[2]

[2] My colleague, Dr. D. K. Adams, has informed me that the kinships here stated are acknowledged in Lewin's "vector-psychology."

CHAPTER XV

C. Spearman's "G" and W. McDougall's "Instrumental Intellect"

PROFESSOR C. SPEARMAN, by the application of intricate mathematical treatment to mental test material, has found that in the solution of tasks of the most diverse kind there is always involved one common mental function; a function (factor) which he calls "G". The ability to perform this function, furthermore, he thinks, is constant in each individual.

". . . The G proved to be a factor which enters into the measurements of ability of all kinds, and which is throughout constant for any individual, although varying greatly for different individuals. It showed itself to be involved invariably and exclusively in all operations of eductive nature, whatever might be the class of relation or the sort of fundaments at issue. It was found to be equally concerned with each of the two general dimensions of ability, Clearness and Speed. It also applied in similar manner to both the dimensions of span, which are Intensity and Extensity. But it revealed a surprisingly complete independence of all manifestations of Retentivity. . . ."[1]

It may be noted already here that the "G" factor as described by Spearman, being involved in all appreciation of relations, appears to be a function which, according to my theory of general curiosity, is carried essentially by the latter impulse.

In speculating upon the nature of "G," Spearman concludes that the most plausible hypothesis available is to consider it—in each individual—an unchanging quantity of mental energy. To quote again: "Now, out of all that have been suggested hitherto, one and only one appears to fit all the facts known at present. This is to regard G as measuring something analogous to an 'energy'; that is to say, it is some force

[1] *The Abilities of Man,* pp. 411-412.

capable of being transferred from one mental operation to another different one. Even on the physiological side, there are some grounds for hoping that some such energy will sooner or later be discovered in the nervous system, especially the cerebral cortex. . . ."[2]

McDougall, in a recent article, has criticized Spearman's concept of "G," particularly the latter's interpretation of "G" as a quantity of energy. He offers instead a *hormic* explanation of the "general factor". I value McDougall's reinterpretation of "G" as a great improvement upon the interpretation submitted by Spearman, and quote below a fairly lengthy statement of his argument:

> The question of the nature of G is . . . urgent. Here we must distinguish two questions: First, in what kinds of operation does G most clearly manifest itself? Secondly, what is the underlying cause . . . which thus manifests itself? Spearman has shown that the answer to the former question may be stated . . . as all operations of which the essence is the apprehension of relevant relations or the eduction of relevant correlates. . . .
>
> But as regards the second question, the answer remains obscure. . . . [According to Spearman, "G" measures a quantity of available mental energy.]
>
> . . . Spearman is a little vague as to the meaning of the phrase "quantity of energy." He tells us that G is constant for each person and formulates a law of constant output of energy. But he cannot mean that each person constantly functions with the same rate of energy-output or conversion. Any such statement would be inconsistent with a multitude of facts. . . .
>
> What then does Spearman mean. . . .? He himself writes: "The more 'energy' a person has available already, the less advantage accrues to his ability from further increments of it." He . . . regards . . . fatigue and recuperation as the principle or sole factors determining oscillations of cognitive efficiency. . . .
>
> If G is a variable quantity, how can it be constant? . . . Spearman does not sufficiently take account of a distinction . . . between active and potential energy. . . . We must distinguish, on the one hand, the total reserve of potential energy which varies with conditions of health, age, and fatigue; and, on the other hand, the active energy *available* at any moment, a quantity which varies . . . especially [with] the incentives of the moment.

[2] *Ibid.*, p. 414.

What is it . . . that is approximately constant for each person and is measured by G? . . . G measures quantity of energy . . . available to the person investigated, *under the particular conditions of the application of mental tests.*

Spearman seems to avoid this obvious implication. He finds evidence that "effort" does not in general promote efficiency of cognition. And similarly of conation in general. . . . Yet he adds: "In certain exceptional cases, however, such an influence is . . . strikingly suggested . . ."; and he opens his discussion with the pregnant remark: "How great is the influence exercised upon a person's cognitive operations by the intensity of the effort he makes? This question probes very deeply indeed; it is almost equivalent to suggesting that perhaps the G may really be not of cognitive nature, but conative only. For both theory and practice, such a conclusion would be revolutionary."

. . . the revolution here suggested is . . . the revolution in favor of the thoroughly *hormic* psychology. . . . The problem stated in boldest fashion is: Whence comes the energy . . . which . . . [is] at work in mental activities? . . .

. . . hormic psychology . . . insists on the fundamental and dominant rôle in all mental activity of . . . striving towards goals . . . impulses . . . rooted in the inborn constitution . . .

. . . in so far as G measures energy, it is the energy of conation manifested by degree of success in the cognitive aspect of the activities investigated. . . . Spearman makes in this connection a pregnant remark: "In general, conation produces its effect mainly by *directing* the mental energy to the relevant processes. . . ."

This remark suggests that we . . . should distinguish two functions . . . the supplying of energy and . . . the direction of that energy into the appropriate channels. . . .

The general factor, G, . . . is, I suggest, not merely the quantity of energy available to the individual testee under the conditions of testing; it is rather the *power of the individual to concentrate his available energy effectively upon the task in hand.* . . .

. . . the inhibition by the dominant function of all other high-level functions, is a fact of common observation. . . . But the evidence for concentration of energy is less clear and abundant . . . common observation of one's self and others strongly suggests it . . . as long as we feel heavy, sluggish, inert, sleepy . . . our activities are relatively ineffective. Conversely we find that, the more alert and energetic we feel . . . the more effective is

every activity. . . . That is to say, there seems to be a background or general level of available energy of varying height. . . .

. . . the generalization just made is subject to a qualification. A state of general excitement seems in general favorable to the effectiveness of all forms of dominant activity; yet sometimes great excitement proves detrimental. . . .

The conflict of evidence can best be considered and the paradox resolved in relation to the two major emotional states . . . anger and fear. . . .

. . . If you are merely trying to bend a bar . . . the more angry you are . . . the more strength you seem able to put forth; *so long as* your effort is directed.

Even in such simple efforts, the excitement may be too intense; as when an angry subject falls into hysterical violence. . . . This last seems to be a condition in which the normal direction of energy into appropriate channels . . . breaks down. . . . It seems probable that for each subject there is . . . a critical point; at intensities below that critical point, the energy of the emotional excitement is controlled. . . . But when the intensity is pushed up beyond that critical point, such control and direction are no longer possible. . . .

It seems that the higher the type of activity required by any situation, the lower lies this critical point of break-down of control on increasing excitement. . . .

Much the same may be said of fear; but there would seem to be this difference . . . that fear is the more difficult to control . . . the critical point in the scale of intensity of excitement lies lower for fear than for anger . . . for . . . high-level action . . . the critical point lies very low. . . .

There is a wealth of facts . . . which lend themselves readily to interpretation in terms of general energy . . . which is applied in purposive directed action so long as the dominant purpose or conation is strong enough to maintain control. And this interpretation implies an actual concentration of the general energy available . . . in the moments of effective thought and action.

In all such instances we seem to have evidence that control of all emotional excitement means . . . an actual utilization of it, a direction of its energy into the channels of the dominant activity of the moment. . . .

The general experience of mankind and large-scale experiment with all the resources of the laboratory are . . . agreed, in that each finds a common factor in all higher mental activities.

The former calls its common factor the power of effectively concentrating the mind . . . upon the task in hand. . . . The latter calls its common factor G, and suggests that G represents the total quantity of energy available.

I am suggesting that the two common factors inferred by these two independent approaches are in reality one, and that the characterization of it as power of effective concentration of energy is a step nearer to the truth than its designation as merely quantity of energy available. . . .

. . . what is the condition of that control and direction and effective concentration of energy . . . the reply to this question may be given in one word, *integration.* Animals are but little integrated; and the same is true of the infant. Throughout the early years each normal child becomes more and more integrated. . . . And individuals progress to various points in the scale of integration. In proportion to the degree of integration achieved, the whole mind . . . works as one system which dominates and controls all its parts; in proportion as it does this, it is able to concentrate effectively, to direct available energy into the channels of the dominant activity of each moment. . . .

It remains only to raise the question—How is achieved the control, direction, and concentration of energy manifested in all higher activity? No clear-cut answer can be given. . . .[3]

It is not my intention to attempt anything like a final answer to the question McDougall leaves open at the end of his exposition, notably the one: how is concentration and direction of energy to be explained? I desire, rather, merely to consider the problem before us in the light of some of the theories laid down in the present work, following the implications of the latter wherever they might lead.

If, as McDougall states, capacity to concentrate energy effectively is a function of well-knit, well-integrated character, our first task will be to examine, from the viewpoint of our theory, the nature and course of the growth of character. This problem is one that sometime I expect to treat separately; so I shall here briefly submit merely a few essential considerations.

The growth of character, according to McDougall, has two

[3] "On the Nature of Spearman's General Factor."

phases: (1) the formation of sentiments and (2) the integration of sentiments.

A sentiment is an acquired disposition to behave purposefully, that is, in a goal-seeking manner towards specific things. Instincts and sentiments differ in three essential respects: (1) the instinct is an inborn disposition; the sentiment is acquired; (2) the goal of the instinct is a type of objects; the goal of the sentiment is an individual object, or, at least, some species of a type; and (3) the urge of the instinct is the urge of a single special impulse; the urge of a sentiment might be the urge of a complex of special impulses.

To extract the significance with regard to sentiments of the latter two characteristics, we might say that the formation of a sentiment represents, on the one hand, a specification of the goal of striving and, on the other hand, in many instances, a complication of the mode of striving. The second characteristic of sentiment-formation, namely, the complication of conation, is not essential to all sentiments; for there are many sentiments into which enters only one special impulse. As regards structure, then, the latter differs from instincts merely in respect to higher specification of object. We shall consider these simple sentiments first.

What is the nature of the process of specification of the objects of sentiments?

I shall submit a tentative reply to this question from the point of view of my theory of belief.

Let us consider the hypothetical case of a living being feeding instinctively upon the type of object: red fruit. A living being endowed with an instinctive disposition to react in such way to hunger, will display hunger behavior towards a number of kinds of fruit: cherries, apples, tomatoes, and what not—in fact, towards all kinds of fruit of red color. However, he might by experience acquire a food-preference for a particular one of the species mentioned; let us say, for instance, apples —a development that would constitute a simple example of sentiment-formation. One way to interpret such enduring acquired preference would seem to me to be as follows: As the living being concerned repeatedly seeks his food among red fruit of various kinds, many cycles of food-activity will be

experienced and committed to the individual memory-continuum. Though urged by one and the same impulse, these cycles need not be all alike; they may differ in one important respect; some of them may seem to comprise a more marked quality of satisfaction than others. In our case, we assume this to be true with regard to cycles of food-activity directed towards apples. The difference referred to, according to our theory, is apprehended by virtue of general curiosity exploring the memory-continuum. Each of these cycles of conation, when remembered, is an object of belief; and, accordingly, its recollection in the course of hunger behavior represents additional mobilization of force to the present pursuit of food.

Let us now recall the general formula of guidance by past experience of present conduct. An impulse (I) is at work. In conformity with the law of "affinity of cognitive dispositions," this impulse might activate any unit of the memory-continuum originally built up around its own desire, that is, any memory of its own earlier activity. Among these memories are memories both of failure and of success. The deference to the former as objects of belief counteracts any impulsion to repeat inadequate behavior, while the deference to the latter as objects of belief favors and supports by its energy any impulsion towards adequate behavior.

Applying this general formula to the specific case at hand, we should first recognize that failing behavior is excluded by the fact that, by definition, the hypothetical special impulse we are considering is one, sufficiently specific in organization not to permit inadequate reaction, all red fruit constituting proper food-objects for the living being concerned. Accordingly, the individual memory-continuum of the latter will comprise no memory-dispositions to think cycles of failing endeavor in the search for food. Yet the memories of success in the same activity are not all alike, some being memories of fuller satisfaction (the ones involving apples), others of less satisfaction (the ones involving cherries and tomatoes). Now the acquisition of a food-preference can only mean that the memories of less satisfactory character gradually begin to function as memories of relative failure; that is, the deference to these memories as objects of belief will begin to counter-

act in some measure food-reaction towards cherries and tomatoes, while the deference to the memories of full satisfaction, as objects of belief, with continually accumulating force will support food-reaction towards apples. A sentiment, then, of this simple kind—like all sentiments—can be generally defined as an instinct modified by the acquisition of a system of directive beliefs.

The complication of conation which is characteristic of some sentiments—particularly on the human plane—and which constitutes a second important difference between these sentiments and the instincts can be explained in the following way: One and the same individual thing or kind of things, on different repeated occasions, instigates, or participates in different events, (X) and (Y), in the physical continuum, each of which excites a different primitive special impulse. As a result, the two impulses, excited directly or indirectly by one and the same instigator, will become tied together psychologically into a unitary disposition comprising both the two modes of special conation with regard to the crucial object. As the conjunction described is acquired, the joint product is a sentiment. For example: In the sentiment of hatred are incorporated two impulses, the one of pugnacity and the one of escape. The formation of a sentiment of hatred towards a fellow-man is conditioned by the circumstance that his behavior towards you, on repeated occasions, has evoked both your anger and your fear. Here it should be noticed that, in virtue of your fellow-man's physical or bodily property, his behavior towards you represents an event in the physical world. Any sentiment of complex conation, like the simple ones, is always supported by the deference of a configuration of beliefs.

The formation of individual moral sentiments, which is conditioned by sympathetic induction of conative attitudes, and by language (a tertiary symbol of *impulse-stirring* events) we need not enter upon here.

Concerning the second phase in character growth, integration of sentiments, I need to say very little. Well-knit, harmonious character is distinguished by the fact that one dominating master-sentiment controls all endeavor; one supreme

regard ultimately determines all activity. The food-preference for apples, discussed earlier, might be spoken of as a food master-sentiment. Its development was conditioned in two ways: (1) by effective guidance of food-reaction, exerted by memories of relative success (beliefs) functioning as memories of relative failure, that is, counteracting impulsion towards food-activity in regard to objects, other than apples; and (2) by strong and accumulating support of food-reaction towards apples, exerted by memories of perfect success (beliefs), both guidance and support being the result of deferent impulse expanding its effort into the activity of search for food.

Well-knit character, though more complex, is, broadly speaking, analogous to the simple food master-sentiment. The dominating sentiment of harmonious character attains its mastery, on the one hand, by the fact that it is always guided towards its goal by an effective system of beliefs which counteract any impulsion away from the latter, and, on the other hand, by the fact that the progress towards its goal is forcefully supported by continually accumulating energy of beliefs joining effort into the latter progress. Thus subsidized, the master-sentiment becomes the dominating urge, which, by virtue of its superior force, drains and inhibits subordinate special conation conflicting with its imperial purposes.

We now return to McDougall's proposition that ability effectively to concentrate effort is a function of the perfection of character-integration. We shall tentatively accept his proposition as valid and try to analyze which are, under this supposition, the fundamental agencies concerned in effective concentration of energy. These agencies, as a matter of logic, would be the same as those promoting the growth of harmonious character.

Character seems to depend essentially upon the totality of our more important beliefs, more especially upon two properties of the latter: one a quantitative and the other a qualitative property. The former, the quantitative property, refers to the strength of our total system of beliefs, a matter that would be measured by the total amount of deferent force available to the individual, or, as we may logically infer, by the power—inborn or acquired—of his primordial impulse of general

deference. The latter, the qualitative property of our total system of beliefs, refers to the efficacy with which it applies itself as a guide of conduct. Nobody would ever hesitate to agree with me that the latter property is bound to be a function of our skill in apprehending subtle relations and, consequently, as a matter of theory, would be measured by the subtlety of functioning—native or acquired—of the primordial impulse of general curiosity.

In conclusion, I suggest that the ability to concentrate energy effectively upon purposive tasks is a function of primordial curiosity and of primordial deference, and I also suggest that the question as to how such concentration of effort is accomplished—the question which McDougall leaves open—has been brought nearer to an explanation by being referred to these two general impulses. And here we face a strange and perhaps significant coincidence, notably that the general factor, functioning in all cognitive activity however diverse, which Spearman has educed by mathematical means, turns out to be exactly a function which, in the light of my theory, logically derives from the two general impulses which co-operate with special conation in any purposive endeavor of man.

McDougall, in his two works on general psychology (*Outline of Psychology* and *The Energies of Men*), offers what seem to me—at least on the surface of it—different interpretations of intellect.

In the former work, it would seem as if he considered an essential constituent of a man's intellect to be the system of his beliefs. "The structure of every developed mind," he writes, "comprises a multitude of beliefs . . . in every normal human mind, these are in some degree organized in systems. In the highly organized mind that we call a scientific intellect, this organization renders most of the general beliefs coherent and reciprocally supporting, like the stones of a dome of masonry. . . ."[4]

"Intellect includes intelligence and much more besides; for 'a good intellect' implies good intelligence that works through and by means of rich and well organized cognitive structure. A man may have good intelligence, i.e., high capacity for mak-

[4] *Outline of Psychology*, p. 414.

ing new adaptations, while yet his intellect is poor, because he has not enriched it by acquiring much knowledge, or has not logically organized his knowledge as systems of beliefs. . . ."[5]

McDougall offers a suggestive simile to illustrate the various modes and degrees of integration of beliefs which occur in different individuals, and a few lines as to the circumstances determining the integration of beliefs, implying perhaps—though I am not certain—the emotional and the rational principles of belief-engenderment, earlier pointed to and explicated. ". . . few minds entertain one wholly coherent and consistent system of general beliefs. Returning to the imperfect simile, and likening the perfectly coherent system of a scientific intellect to a classical building surmounted by a single dome, we may liken the intellect of another man to a Gothic cathedral with twin spires which stand independently without mutual support. Such is the man who builds up systems of religious and of scientific beliefs in almost complete independence of one another. In terms of the same simile, the beliefs of the ordinary man may be likened to a Gothic building of great irregularity, lacking all unity or consistency of plan and covered with queer gables and towers, each of which may be pulled down or remodelled without seriously affecting the rest.

"Such more or less detached systems of belief, more or less logically incompatible with one another, are formed through the working of different conative tendencies organized in great sentiments, such as the religious, the patriotic, and the family sentiments . . . the harmonization of beliefs in a single consistent system is only approximately achieved by those persons who are moved, as we say, by a 'disinterested love of truth'. . . ."[6]

In his later work, *The Energies of Men,* McDougall does not mention belief or systems of belief at all in connection with intellect. System of beliefs, on the other hand, is briefly referred to in his consideration of the psychological significance of a scale of values. To quote: "Though . . . a scale of values can be achieved only by aid of much critical reflection, it is not the product of rational reflection alone, does not consist

[5] *Ibid.,* p. 379.

[6] *Ibid.,* pp. 415-416.

merely in a system of beliefs as to relative values. A man may assent to the proposition that intellectual effort is of more value than watching football games, yet may habitually postpone the former to the latter; he may agree that great music is of more value than musical comedy, yet, in practice, prefer the latter. . . .

". . . reflection [might lead a man] to something like a stable scale of values: he not only has a sentiment for fair play, but he has decided that it is of more value than the satisfaction of his crude impulses, and more to be desired than the gratification of his concrete sentiments of love and hate; that his desire for fair play must not merely check and modify his more spontaneous inclinations, but must rule over them absolutely. Fair play thus becomes an ideal value. His impulse to fair play springs from the abstract sentiment, but owes its dominance in his feeling and conduct to the rational reflection that has given it a first place in his scale of values; has made it a value which he desires to see realized in general, but especially in his own conduct. . . ."[7] In the latter part of the passage quoted, it would seem that McDougall, though his terminology does not admit it, describes what I would call the function of the protective propensity, guided and supported by a set of beliefs in moral values.

If McDougall explicitly identified our intellect with the system of our beliefs, I would whole-heartedly agree with him. Yet I would maintain that each belief is an energetic unit of mind (a cognitive-conative disposition)—a seat of its own energy which, when converted from the potential to the active state, manifests itself in directed force. Accordingly, I would consider the integrated system of our beliefs a complex energetic unit of mind, the function of which would express itself in directed effort. Such consideration would clearly indicate a fundamental community in nature of simple beliefs and simple sentiments, on the one hand, and of the system of our beliefs and character, on the other. And this, in turn, would tend to eradicate the distinction between intellect and character which is still maintained by most psychologists—a distinction that may be of superficial value in professional psychology but

[7] *The Energies of Men,* pp. 305-306.

which, I believe, is and has been utterly detrimental to theoretical systematic understanding of human and animal nature. Such distinction becomes even less tenable in view of the fact that character actually is merely our primitive impulses reciprocally governed and balanced in their function by a legion of acquired directive beliefs.

In *The Energies of Men* McDougall clearly identifies intellect with the sum total of our innate and acquired cognitive dispositions, the former—the simpler—constituting merely the ability of perceiving or singling out from its surroundings the goal objects of instincts. These cognitive dispositions in their simplicity and complexity he conceives as instruments, not as energetic agents in activity, the latter view being explicitly stated in the following passage which concludes his sub-chapter on intellect: "Intellect . . . becomes a universal instrument which can be used by every tendency and every system of tendencies, by every sentiment, to promote the attainment of its ends or goals. Yet it is still but a means, a servant of the tendencies, an infinitely flexible and very powerful instrument: it does not, and by its very nature cannot, determine our goals; though it has its part to play, as reconciler and adjuster, whenever tendencies and interests come into rivalry or conflict. . . ."[8]

I object to this interpretation of intellect, perhaps on bias. I have adopted as basic—in order to apply for what it might be worth to psychological interpretation—what I believe to be a sound proposition, notably that mental activity is always conative, that any mental disposition, including the cognitive ones (the beliefs), is an energetic unit of mind, and that whatever is merely instrumental to mind belongs to the bodily realm of the living beings—the body as a general supposition being the tool through which mind is in active relation with the physical world, be it in a receptive or in an executive sense. An intellect functioning merely instrumentally, consisting of merely instrumental abilities, accordingly, I would be compelled to interpret as a property of the tool of mind, the body; and the development, perfection, and integration of its

[8] *Ibid.*, p. 379.

abilities, I would have to think of in the terms of disjunctive and conjunctive process of growth within the nervous system exclusively.

McDougall's "instrumental intellect" will lose no essential part of its psychological significance if it is thus referred to and treated.

CHAPTER XVI

Apprehension without Deference

> It is of the essence of the aesthetic attitude that we do not inquire into the reality of that which we contemplate.
>
> William McDougall, *Outline of Psychology*, p. 376.

> Against all the senseless rhetoric that has been wafted like incense before the high altar of "Mathematical Truth," let us put the considered verdict of the man whom most professional mathematicians would agree is the foremost living member of their guild. Mathematics, according to David Hilbert . . . , is a game played according to certain simple rules with meaningless marks on paper. . . . The *meaning* of mathematics has nothing to do with the game, and mathematicians pass outside their proper domain when they attempt to give the marks meaning. . . .
>
> E. T. Bell, *The Queen of the Sciences*, p. 21.

THERE IS a question of considerable subtlety which, even if it may not be conclusively or finally settled, should not be ignored in a treatise on the psychology of belief, notably the question: Do we ever apprehend without believing? While G. F. Stout would formulate this query thus: Do we ever apprehend without judgment of affirmation or denial? the technical formulation of the latter from the viewpoint of the general theory concerning the nature of belief—laid down in the present work—would be: Do we ever apprehend without deference?

It is evident that the question: Do we ever apprehend without believing? is closely allied with the more fundamental one: Is thinking or mere apprehension a psychological process different from the process of believing; and, if so, do the two processes occur in separation, that is, independently of each other? All writers agree that there is no free believing, that is, that no believing is performed without coinciding thinking of that which is believed. The conception of free believing is an impossibility, and the proposition of its existence would fall upon its own absurdity without calling for any argumentation. But is there thinking without believing? This is a re-formulation of our original question to which different psychologists have offered different replies. It is evident that those writers who answer the query in the affirmative are compelled to assume

the two processes to be fundamentally different, while those who deny a complete separation between believing and thinking might regard the processes as psychologically identical, although logically discriminable, or they might still regard them as basically different.

As representative of the opinion that the processes concerned are fundamentally different, and that thinking might take place without believing, stand Reid, Brentano, and James; as exponents of the view that there is no thinking without some measure of belief, stand Stout and, perhaps, McDougall. The attitude of the latter two writers to the question whether or not thinking and believing are basically different processes, is somewhat difficult to infer with certainty from their respective treatments of the problem at large. I surmise, though, that they consider them different.

Reid, who is generally inclined to base doctrine upon common sense and upon the appearance of things to the plain man, writes: "Judgment is an act of the mind specifically different from simple apprehension, or the bare conception of a thing. . . . Although there can be no judgment without a conception of the things about which we judge, yet conception may be without any judgment. . . . It is self-evident that every judgment must be either true or false; but simple apprehension or conception can neither be true nor false. . . ."[1] Brentano is equally determined upon a corresponding opinion: "Every object comes into consciousness in a twofold way, as simply thought of [*vorgestellt*] and as admitted [*anerkannt*] or denied. The relation is analogous to that which is assumed by most philosophers (by Kant no less than by Aristotle) to obtain between mere thought and desire. Nothing is ever desired without being thought of; but the desiring is nevertheless a second quite new and peculiar form of relation to the object, a second quite new way of receiving it into consciousness. No more is anything judged [i.e., believed or disbelieved] which is not thought of too. But we must insist that, so soon as the object of a thought becomes the object of an asserting or rejecting judgment, our consciousness steps into an entirely new relation towards it. It is then twice present

[1] *Reid's Works,* ed. Sir William Hamilton, I, 414.

in consciousness, as thought of, and as held for real or denied; just as when desire awakens for it, it is both thought and simultaneously desired" (*Psychologie,* p. 266).[2] William James, influenced in the present concern by Brentano, writes: ". . . the 'object' of thought may be comparatively simple, like 'Ha! what a pain,' or 'It-thunders'; or it may be complex, like 'Columbus-discovered-America-in-1492,' or 'There-exists-an-all-wise-Creator-of-the-world.' In either case, however, the mere thought of the object may exist as something quite distinct from the belief in its reality. . . . The commonplace doctrine of 'judgment' is that it consists in the combination of 'ideas' by a 'copula' into a 'proposition,' which may be of various sorts, as affirmative, negative, hypothetical, etc. But who does not see that in a disbelieved or doubted or interrogative or conditional proposition, the ideas are combined in the same identical way in which they are in a proposition which is solidly believed? *The way in which the ideas are combined is a part of the inner constitution of the thought's object or content.* That object is sometimes an articulated whole with relations between its parts, amongst which relations, that of predicate to subject may be one. But when we have got our object with its inner constitution thus defined in a proposition, then the question comes up regarding the object as a whole: 'Is it a real object? is this proposition a true proposition or not?' And in the answer *Yes* to *this* question lies that new psychic act which Brentano calls 'judgment,' but which I prefer to call 'belief.' . . . In every proposition, then, so far as it is believed, questioned, or disbelieved, four elements are to be distinguished, the subject, the predicate, and their relation (of whatever sort it be)—these form the *object* of belief—and finally the psychic attitude in which our mind stands towards the proposition taken as a whole—and this is the belief itself . . . this attitude is a state of consciousness *sui generis,* about which nothing more can be said in the way of internal analysis. . . ."[3] G. F. Stout, as the representative of the view that there is no thinking without some measure of coinciding belief, comments upon the matter as follows: "Nothing that has been urged in favour

[2] Translation quoted from James's *Principles of Psychology,* II, 286.
[3] *Principles of Psychology,* II, 286-287.

of the distinction between judgment and simple apprehension points to the existence of any moment in our conscious life in which the element of judgment is entirely absent. What has been maintained is that we can think about specific objects without correspondingly specific affirmations or denials concerning them. We must now point out that there is no thought without some kind and degree of judgment. . . . The existence of an object means for us that it has a place in the scheme of existence; that it forms a determination or qualification of reality in general. Unless the thought of this reality, however vague it may be, is at the same time an affirmation of it, no specific thought of a specific object is possible. Thus thinking is always inseparably connected with believing. The distinction between the attitude of belief and that of mere thought is relative. It is based on the fact that definiteness and distinctness in the apprehension of special objects need not be accompanied by affirmation or denial of these special objects as such. It is especially important to note not merely that this distinction is relative, but also that it seems only to emerge in a comparatively advanced stage of mental development. Primitive mental life, so far as it involves objective reference at all, seems to consist wholly in sense-perception. But sense-perception normally includes affirmation of the object perceived. . . . If at this stage we are to maintain the distinction at all, we can only do so in the manner of Hamilton. We may say that apprehension and judgment 'are really one, as each involves the other, . . . and as together they constitute a single indivisible act of cognition; but they are *logically* double, inasmuch as, by mental abstraction, they may be viewed each for itself, and as a distinguishable element of thought'. But such a distinction can scarcely be said to have any psychological significance. . . ."[4] When, in the latter part of the passage quoted, Stout voices his agreement with Hamilton that, on the primitive stage, apprehension and judgment 'constitute a single indivisible act' it would seem as if he at the same time denies that the two processes are different in basic nature. Yet there are other instances when he positively states that the two processes are different. Thus, after having analyzed

[4] *Analytic Psychology,* I, 111-113.

the state of doubt—more especially the particular state of doubt when "hesitancy arises from the mere absence of determining reasons"—he says: "So much . . . can be fairly asserted as the outcome of our analysis of this form of doubt. In it judgment is present in a most defective, and, so to speak, attenuated form, whereas the thought which it presupposes may be quite clear and definite. There need be no vagueness or indeterminateness in the simple apprehension of the alternatives. This is sufficient, I think, to show that thinking of a thing is an attitude of the subject towards objects distinct from that of affirmation or denial. . . ."[5] And, after having analyzed the state of mind in play of fancy or 'make-believe', he concludes: ". . . in the play of imagination, our belief in the feigned existences, if we have any, is at a minimum, our ideas of these feigned existences may be in the highest degree vivid and distinct. We have here, then, as in the case of doubt good reason for regarding 'simple apprehension' as fundamentally distinct from affirmation or denial."[6] It would seem as if both the latter passages imply that Stout distinguishes the processes of thinking and of believing as basically different, his support of the distinction being that clarity of thought and clarity of belief might vary independently. What troubles my mind in regard to Stout's view is the fact that he holds, on the one hand, that, on the primitive level of mental life, apprehension and judgment "constitute a single indivisible act of cognition," on the other hand, that in a more developed state they become independent of each other and, accordingly, would appear to be separate processes. Can such a view be logically maintained? I abstain from answering this question, though I desire to have it raised. Finally McDougall: ". . . Primitively, implicit judgment and that lowly form of belief which is more properly called 'confidence' accompany all cognition. . . . Affirmation or denial, acceptance or rejection, appetition or aversion, normally results from and accompanies cognition."[7] This statement is non-committal in regard to the question of the different nature of apprehension and belief, but it suggests an opinion similar to Stout's. Like the latter, McDougall acknowledges a separa-

[5] *Ibid.*, I, 103. [6] *Ibid.*, I, 105.
[7] *Outline of Psychology*, pp. 375-376.

tion of thinking from believing on a high level of mental development, notably in the attitude of aesthetic contemplation, which he holds to be detached from affirmation or denial of that contemplated. More shall be said about this in a later chapter.

I have quoted a number of prominent psychologists upon the question of the relation between apprehension and belief in order to demonstrate the divergence of opinion concerning this question and, accordingly, the difficulty of the problem involved. It is not my intention to review critically the argumentation of these different writers—such undertaking would require a treatise of its own—but rather to investigate independently the problem concerned from the viewpoint of the general theory of belief submitted in the earlier parts of the present work, hoping thereby to be able to bring out new considerations that will bear in one or the other direction upon the controversial topic before us.

In order to prepare this investigation, I must call attention to some very fundamental characteristics of belief. It must be clearly understood that the object comprehended in belief is never a thing expressible by a simple noun, like *pencil,* but always a proposition such as *pencil is,* or, in the case of negative belief, *pencil is not,* this being, in fact, the very justification of Stout's and McDougall's claim that judgment of affirmation is comprised in simple sense-perception.

All psychological objects denominable by civilized languages are denominable by means of words which fall into seven categories: nouns, pronouns, verbs, adjectives, adverbs, conjunctions, and prepositions, this list not including the determined and indetermined articles *the* and *a,* and the so-called interjections. I shall endeavor to support the proposition that the majority of single words of any one category, including the two articles, symbolize, more or less directly, psychological realities; that is, most single words signify something that can be properly substituted for the factor A in the simple general formula of positive belief, the formula: *A is.* The major number of exceptions from this rule falls within the category of the nouns, many of which denominate also psychological objects of negative belief, or of doubt; in other words, objects

which respectively can be substituted for A in the simple formulas of negative belief and of doubt: *A is not* and *A is or is not.*

It is nearly self-evident that, concerning any psychological object that can be denominated by a single noun, it can be said with conviction—though not with good grammar—either that *it is,* or that *it is not,* or that *it is or is not.* For instance: *pencil is; witch is not; honesty is, perfection is not; soul is or is not;* and so forth.

Although, as I have stated, many single nouns signify psychological objects of negative belief or of doubt, the majority of the latter stand for things the reality of which we would unhesitatingly affirm. Anyone, who desires, may verify this proposition by opening a dictionary at random and studying the meaning of the nouns on the page chosen by chance. Anyone will then find, also, that the nouns signifying psychological objects of negative belief are very frequently related to myth and superstition of past ages. There is some likelihood that, at the time these nouns originated, they actually signified to their originators positive realities, the progress of civilization being responsible for the change in their meaning.

In civilized languages, there are minor attachments to the simple nouns which modify their meaning. Thus, in the English tongue, one may set either of the articles *the* and *a* before a noun, or one may add to a noun the *genitive s,* or the *plural s, es,* or *umlaut.* These additions, each individually, represent positive realities or objects of belief. Thus: *determination is; indetermination is; belonging to is; multiplicity of a kind is*—these being respectively the four realities implied in the articles *the* and *a,* in the *genitive s,* and in the *plural s, es* or *umlaut.*

Many nouns are made from verbs, for instance, digestion, election, projection, etc.; also, all verbs in the grammatical form known as *participium presens* are used with nominal significance: eating, laughing, and so on. All these nouns we shall include in the treatment of the verb. In the same way, many nouns are made from adjectives—for instance, redness,

cleverness, haughtiness. These shall all be included in the treatment of the adjectives.

The pronouns—except *I,* which stands only for self, and *they,* which stands for any variety of things in a group—are substitutes for members of categories of nouns: *singular you* standing for any individual human or human's kind, *he* for any individual of linguistical masculines, *she* for any individual of linguistical feminines, *it* for any individual of linguistical neuters, *we* for selves in a group of any size, and *plural you* for humans or humans' kind in a group of any size. Each pronoun, then, except *I* and *they*—in its simplest usage—substitutes for nouns of its category. Depending upon that for which it substitutes, it may *be,* it may *not be,* or it may *be or not be*: (pencil), *it is;* (centaur), *he is not;* (soul), *it is or is not.* Like the nouns, the pronouns have their genitive form which in itself represents a reality: *belonging to.*[8]

Verbs, whether they are transitive or intransitive, universally imply activity, this being true even of the verb *to be.* The activities implied are practically always psychological realities. Exceptions to this rule, I have found only when the simple verb is qualified in some way, as, for instance, in the case of the verb *fire-walk* (*firewalking*), which as an activity may be an object of doubt, or, to some people, an object of negative belief. Even the activities of the mythological and demonological beings would be realities but for their strange qualifications. Thus the Norns were spinning, as any woman might do, but they were spinning the fate of mankind, which no woman of flesh and blood is able to do; the witches rode, as you and I, but they rode on broomsticks through the air, which we do not do; and the vampires drank, just as we do, but they drank blood, a practice which is not current among us. It would seem then that practically all verbs, in their simple, non-qualified form, stand for psychological realities. There may be exceptions to this rule, but I have not been able to put my finger upon any. If I am correct, it follows that the nouns

[8] For the sake of brevity, I have restricted my discussion to the personal pronouns. What is said in general about the latter, in some measure has application, directly or indirectly, to the relative, the demonstrative, the possessive, the reflexive, the interrogative, the indefinite, and the reciprocal pronouns.

derived from verbs also stand for psychological realities or for psychological objects of belief: *eating is, fighting is, writing is,* etc.

Verbs have tenses implying function in the past (*imperfectum*), in the present (*presens*), and in the future (*futurum*); also tenses implying completion in the near past (*perfectum*), in the remote past (*plusquamperfectum*), and in the future (*futurum exactum*). These tenses themselves have reference to psychological objects of beliefs—on the one hand, to the realities: *past, present* and *future;* on the other hand, to the realities: *incompletion* and *completion.*[9]

The activities denoted by verbs qualify certain things denominable by nouns, and are experienced only in connection with the latter. The meaning of the single verb is thus an abstraction, a general psychological object. The same is true with the psychological objects denominated by adjectives. Adjectives always imply qualities of things which are experienced only in connection with these—qualities which by abstraction and synthesis have become, in some measure, independent objects of thought. I believe that most adjectives stand for positive psychological realities: *red-ness is, honest-ness is, happiness is,* etc. What about *perfect-ness?* I have earlier given perfection as an example of a psychological object of negative belief, expressed by a noun: *perfection is not.* In this concern, I would like to argue the view that here the quality: *perfect* (perfect-ness) expressed by the adjective is a reality, the very reality which conditions our denial of *the perfect thing* and *perfection of things* at large. To state my proposition in its most pointed form: The reality of perfect-ness (the quality) conditions the unreality of perfection (the perfect thing). If I am right, the quality *perfect,* psychologically, is not the result merely of abstraction and synthesis, but also of creative inference. The view offered here is debatable, and I am willing to give it up even if only slight evidence is brought against it. At present I adhere to it tentatively for what it

[9] Most of the subjunctive forms of verbs and verb combinations, being expressive of contingency, condition, or hypothesis, might be said to imply uncertain realness and are thus of restricted reality significance. Yet, indirectly, they imply the reality of such relations as contingency, conditionality, and hypotheticality, in a general sense.

might be worth. If it is true, it applies to a group of other qualities expressed by adjectives, for instance: omnipotent (*omnipotent-ness is, omnipotence is not*); and, indeed, all other qualities which are beyond relativity. If it is not true, it does not essentially modify my initial statement that the psychological objects symbolized by the adjectives, as a rule, are objects of belief. While, in view of the above consideration, the reality-value of many ultra-superlative forms of adjectives may be called in question, there can be no doubt that the comparative form of the adjective stands for a psychological reality (*more-ness of a quality or characteristic is*).

Before I discuss the remaining categories of words, I beg my reader not to be confused by the fact that, in the course of my demonstration, for grammatical reasons, I shall have to give all words a nominal form. That is, sometimes I shall have to use for the adverb *about* the term *about-ness,* and for the preposition *in,* the term *in-ness,* and so forth.

Many of the adverbs are made from adjectives, such as presently and distinctly, and, like the adjective, they stand indirectly for psychological objects of positive belief: *presently-ness is, distinctly-ness is,* etc. Other adverbs have an independent form, like *over, abroad, about,* and so forth. Some of these, like *over* and *about,* have also prepositional significance; but whether prepositions or adverbs, in regard to our present concern, they are like the adverbs formed from adjectives, in that they stand for psychologically real things: *abroad-ness is, over-ness is, about-ness is.* If, in this group, there should be exceptions to the rule laid down, I can name none.

Adverbs and conjunctions are not exclusively distinguishable, some conjunction having occasionally adverbial, and some adverbs conjunctional significance. The conjunctions and allied adverbs, from our point of view, form a very interesting group, for they stand for relations and symbolize the latter as psychological realities. For instance, *and, if,* and *because* stand for three of the most important relations in our comprehension of things, notably the relation of coördination, of subordination, and of causation. These relations are abstract realities; that is, we believe in them as true aspects of comprehension of things (*co-ordination is, subordination is, causality is*).

The prepositions are not exclusively distinguishable from the adverbs; for they express, as a rule, position, direction, time, means, and other relations, sometimes abstract ones. Examples of prepositions are *of, in, out, up, down, above, for, through,* etc. In view of the previous discussion we will have no difficulty in acknowledging that these relations also represent psychological realities of a very general kind, in other words: *of-ness* (or *part-ness*) *is; out-ness is; down-ness is; in-ness* (or *comprisal*) *is;* and so forth.

The outcome of my survey, which, although extensive, is very far from exhaustive, seems to indicate that most single words of civilized languages imply in themselves psychological realities, even those among the nouns, which at present constitute exceptions, in the past having denoted such realities. We may infer from this that words are invented essentially to denote real things or relations in a broad sense of the terms—an inference which, I believe, would be amply supported by the inquiry into the languages of primitive people and also by the inquiry into the language development of little children.

We shall now consider a very singular phenomenon. Although each separate word stands for a reality, as soon as two words are put together, as, for instance, a noun and a verb or adjective qualifying the latter; or a verb and an adverb qualifying the activity implied by the verb, a proposition of positive or negative belief might ensue with about equal chance, for example: *duck dives* (true); *crow sings* (false); or, *yellow pencil* (true); *scarlet elephant* (false); or, *fly orally* (absurd); *eat copiously* (true).

In the same way, if, in a formally relevant fashion, that is, in a fashion conforming with the construction of a sentence, we add together more than two words, we will again have the same alternating possibilities for a true or a false proposition, for instance: *Rabbit eats meat* (false); *snail crawls fast* (false); *sun shines brightly* (true); *triangle has sides* (true); *triangle has four sides* (false). In all these instances, however, the single words in which the propositions are thought and formulated represent psychological realities. Thus: *rabbit is, meat is, eating is; crawling is; four-of-a-kind is;* and so forth. In the case of false propositions, it may even

be that whole parts of the latter, taken in isolation, are perfectly believable realities, yet the totality is absurd. In the above examples the isolated propositions: *rabbit eats* and *snail crawls* are acceptable, although, when the eating and the crawling are further qualified, the propositions become incorrect. Or take a more complicated example, the proposition of Herbert Spencer, discussed by Stout and quoted earlier in this treatise: *A cannon-ball fired on the coast of England strikes the shore of America.* This evidently is a false proposition, because, as Stout points out, considered in its broad relation to all pertinent circumstances, it is an impossibility. Yet every word of the proposition stands for a reality. Furthermore, if we dissolve the proposition into the following constituents: (1) *a cannon-ball is fired from the coast of England,* (2) *a cannon-ball is flying over the waters of the ocean,* and (3) *a cannon-ball strikes the shore of America;* we will find that each of the latter, in isolation, might be a reality, yet the total an impossible incident.

This leads us necessarily to conclude that, even in the rejection of a proposition—negative belief in the latter as a whole—there is involved acceptance of and deference to—positive belief in—the meaning of parts constituting this whole, without such deference the total losing all connotation. To state the situation in the most pointed fashion: The rejection of the proposition as a unit is conditioned by the acceptance of and deference to its constituents, as psychological realities. This, I believe, is very important to keep in mind when we attempt to answer the question which heralds this chapter, notably the question: Is there apprehension without deference?

We have now to consider another very remarkable phenomenon connected with positive or negative belief in complex propositions. Just as total propositions acknowledged to be false may contain constituents which stand for positive realities, there are propositions acknowledged to be true when taken as wholes, which contain constituents the reality of which might be completely rejected, or completely undetermined, that is—neither believed positively or negatively, nor doubted. This is the case in so-called 'suppositional propositions', the first variant of which is illustrated by the following simple

examples: *if 5 = 3,* then *3 + 5 = 6;* or: *If man were a triped instead of a biped, he would not be likely to dance fox-trot.* In both these complex propositions, the constituent propositions: *5 = 3,* and man is a triped, are absurd and, accordingly, explicitly disbelieved, yet the two propositions as wholes, no doubt, are psychological objects of affirmation or positive belief. The second variant of suppositional propositions arises when the supposition is one of two or more alternative possibilities between which no choice can be made. The simplest prototype of this case would be: *(X) is either (A) or (B);* if *(X) is (A),* then *(C) is.* Stout offers a very good example of this variant of suppositional propositions, an example that I shall quote together with his discussion of the latter: ". . . When I see a match-box, I may think of matches being in it. This is simple apprehension. I may, besides this, mentally assert that the box actually does or actually does not contain matches. My attitude is then one of belief. But I may also merely think of the presence or absence of matches as being possible alternatives without regarding either alternative as actual fact and without even raising the question which of them is actual fact. In this case, my attitude towards the objects which I call the existence of matches in the box and the non-existence of matches in the box is one of supposal. I may, on this basis, proceed to affirm that 'if there are no matches in the box, somebody must have been using it.' Here there is belief in the whole proposition, that 'if there are no matches in the box, somebody must have been using it.' But I do not believe either that 'there are no matches in the box' or 'that somebody has been using it.' These propositions are only supposed, and what I believe in is a certain connection between them. Here suppositions enter as subordinate constituents into a proposition which, as a whole, is an object of belief."[10]

It should be noted that, even in the case of suppositional propositions of the two kinds illustrated above, when the constituents of the believed whole are either disbelieved or entirely undetermined, the latter constituents might comprise subordinates which are objects of positive belief. These subordinates,

[10] *Manual of Psychology,* p. 670.

in very complex cases, might be themselves sub-propositions, or in simpler cases they might be merely the realities denoted by the simple words in which the proposition is formulated. To return to our examples: *Man* and *triped* are realities, although the proposition *man is a triped* is not a reality. Or, in the same way, *somebody* (a person), *match-box,* and the act of *using* are realities, while the proposition *somebody must have used the match-box*—in the case referred to—is neither believed—positively or negatively—nor doubted. A proposition which as a whole is believed may, then, comprise a very complex system of subordinates of various reality-value. This again is of utmost importance to keep in view when we attack the question: Is there apprehension without deference?

In view of the fact that any one total proposition we choose, whether it is believed or disbelieved, always comprises subordinates which are apprehended as realities, the case most closely approximating apprehension without belief would be the one when we think total propositions or sequences of related events, without these as wholes being of any reality concern to us, that is, without being either believed or disbelieved —or doubted. Does man ever perform such mode of thinking?

A scarlet elephant. Surely, I can think a scarlet elephant. But I cannot possibly believe a scarlet elephant a reality. My tested knowledge of this species does not permit it. If I should perceive one, I would suffer a mental jar and I would say to myself: "This is an hallucination," or, perhaps, I would say: "Some fool has painted the poor creature scarlet," or, maybe I would say: "This is a mechanical elephant from some phantastic show."

Is there any general attitude of mind in which I would contemplate a scarlet elephant without this mental jar and without such rationalizations, any attitude of mind in which its incompatibility with my well-tested knowledge about things would be of no concern to me? I think, yes. In the attitude I adopt when I listen to a fairy tale, the fairy prince riding upon a scarlet elephant would not disturb me.

There is one more attitude in which the appearances of things, whatever they may be, cause no mental jar, no belief, positive or negative, and no doubt. This is the occasion when,

as a matter of purely intellectual taste or hobby, I endeavor to reason out a train of events that would occur according to logical or mathematical law, if certain premises were indexed as quasi-valid.

The general name for the first attitude mentioned is "the purely aesthetic attitude," the general name for the second, "the purely logical attitude."

I here venture the proposition that these attitudes, and no others, are the ones in which we apprehend, not without deference, but with a minimum of deference. I also suggest that the common negative characteristic of both the purely aesthetic and the purely logical attitude is that both are conative attitudes in which special conation does not enter; in other words, they are attitudes independent of and beyond any special adaptive purpose or necessity. If this is true we may venture the conclusion that it is the absence of special conation in these attitudes that rules out from my aesthetical and logical contemplation the reality concern, which, if true, in turn would suggest that the entrance of a special conation in a complex striving conditions reality-concern, though by no means is it necessarily the factor determining the reality of special things or relations. The reality-concern is thus conditioned by the practical end at the time, and is present in all endeavor serving adaptive need. This statement harmonizes with my earlier proposition that man, though bipolar in his purposive activities, is never purely intellectual and never purely emotional. In turn, the latter proposition does not annul my present suggestion, that in the purposeless attitude of purely aesthetic and purely logical contemplation no special impulse enters.

If no special impulse enters into the aesthetic and the logical contemplation, it follows that these must be urged by general conation. Of the three general conations postulated, sleep, primordial curiosity, and primordial deference, the first is excluded on self-evident ground. The third is not excluded, but its rôle is restricted; for, although in the aesthetic and logical contemplation the reality-concern of the contemplated proposition in toto is absent, deference and belief are present with regard to constituents of wholes, this being a matter that we shall consider shortly. This leaves us to conclude only that

primordial curiosity is the dominant motive of the purely aesthetic and the purely logical attitude.

What I have suggested here might seem on the surface to imply a paradox; for, while it has been maintained throughout my work that rational process urged fundamentally by general curiosity, might engender belief, it is indicated in the above passages that a purely rational process (process urged merely by primordial curiosity) establishes relations which are independent of reality-concern. I hold that this is not a paradox. The solution of the dilemma lies, I suggest, in the circumstance that rational process—whenever reality concern is vital—engenders belief; while rational process itself elicits no reality-concern, the latter being always determined by special conation working in conjunction with the general impulse of curiosity. Such a state of affairs is possible both logically and psychologically.

With regard to the aesthetic attitude, a remarkable number of writers have agreed that this attitude is aloof from the consideration of practical ends, such ends that according to my theory of mental activity would satisfy the needs of special impulses. Concerning the purely logical attitude, agreement as to its nature and reality is far less striking. The absence of practical consideration in endeavor, urged by the latter attitude, can, however, hardly be doubted, if we consider such a case as the one where, intentionally and explicitly, that is, knowingly, you choose a false premise and follow the consequences of the latter upon a certain measure of events, an undertaking which is well within the realm of interest of the logician. In higher mathematics I believe that we find conspicuous instances of purely logical thought process in which the trend taken by a series of mathematical events is of no reality-concern. In support of the latter proposition, I wish to quote a few passages from E. T. Bell's little book, *The Queen of the Sciences*. Commenting upon the following statement by Bertrand Russell, Bell writes:

> Mathematics may be defined as the subject in which we never know what we are talking about, nor whether what we are saying is true. . . .

. . . Russell's description emphasizes the entirely abstract character of mathematics.

. . . it suggests in a few words one of the major projects of mathematics during the past half century, that of reducing all mathematics and the more mature sciences to postulational form, . . . so that mathematicians, philosophers, scientists and men of plain common sense can see exactly what it is that each of them imagines he *is* talking about. . . .

Although it is true in a highly important sense, . . . that we do not know what we are talking about in mathematics, there is another side to the story, which distinguishes mathematics from the elusive reasoning of some philosophers and speculative scientists. Whatever it may be that we *are* talking about in a mathematical argument, we must stick to the subject and avoid slipping new assumptions or slightly changed meanings into the things from which we start.

To be certain that we have not shifted the subject of discussion in an involved and delicate mathematical argument, or to know that our initial assumptions really do contain all that we think we are talking about, is the crux of the whole matter. . . .

. . . According to Benjamin Pierce. . . . , "Mathematics is the science which draws necessary conclusions." As Russell restates the same idea, "Pure mathematics consists entirely of such asseverations as that, if such a proposition is true of *anything,* then such and such another proposition is true. It is essential not to discuss whether the first proposition is really true, and not to mention what the anything is of which it is supposed to be true." Or again, "Pure Mathematics is the class of all propositions of the form 'p implies q,' where p, and q are propositions. . . ."

. . . George Peacock . . . seems to have been one of the first to recognize that algebraical formulas are purely formal—empty of everything but the rules according to which they are combined. The rules in a mathematical game may be any that we please, provided only that they do not lead to flat contradictions like "A is equal to B and A is not equal to B." The British algebraic school . . . stripped elementary algebra of its inherited vagueness and embodied it in the strict form of a set of postulates. . . . let us see what postulates are.

A postulate is merely some statement which we agree to accept without asking for proof. . . .

. . . A postulate is not necessarily "self-evident," nor do we ask "is it true?" The postulate is *given; it is to be accepted*

without argument, and that is all we can say about the postulate itself. . . .

Modern mathematics is concerned with playing the game according to the rules; others may inquire into the 'truth' of mathematical propositions, provided they think they know what they mean.

The rules of the game are extremely simple. Once and for all the postulates are laid down. These include the statement of all the permissible moves of the "elements"—or "pieces."

It is just like chess. The "elements" in chess are the thirty-two chessmen. The postulates of chess are the statements of the moves a player can make, and of what is to happen if certain other things happen. For example, a bishop can move along a diagonal; if one piece is moved to an occupied square, the other piece must be removed from the board, and so on. Only a very original philosopher would dream of asking whether a particular game of chess was "true." The sensible question would be, "Was the game played according to the rules?"

Among the permissible moves of the mathematical game is one which allows us to play. This is the assumption outright that the laws of ordinary logic can be applied to our other postulates . . . this blanket postulate is of the highest importance. . . .

. . . The law of contradiction asserts that no A is not-A; the law of the excluded middle asserts that everything is either A or not-A. Both of these have been accepted until quite recently in all sane reasoning, but both, be it observed, are *postulates* . . . the law of the excluded middle has been called into question as a universally valid part of reasoning within the past twenty years by mathematicians. In practically all mathematics of the past century, however, the whole machinery of common logic has been included in the postulates of all mathematical systems. . . .

Having stated a particular set of postulates, say those of elementary algebra or those of elementary geometry, what next? In the past forty years a beautiful art has developed around postulate systems as things to be studied for their own sake. One question asked about a given set is this. Is the set the most economical? Or is it possible to prune off one and still have a sufficiency? If so, the one that is to be pruned must follow by the rules of logic from the others. With a little practice even amateurs can construct such desirable sets of mutually *independent* postulates. It is at least as amusing a pursuit as solving crossword puzzles or

playing solitaire, and it is fully as useful as—whatever anyone cares to mention.

Are the postulates then completely arbitrary? They are not. . . . *The postulates must never lead to an inconsistency.* Otherwise they are worthless. If by a rigid application of the laws of logic a set of postulates leads to a contradiction, such as "A *is* B *and* A *is not* B," the set must either be amended so as to avoid this contradiction (and possibly others), or it must be thrown away.[11]

The conclusion to which we have been compelled, namely, that all reality-concern is conditioned by special conation, is theoretically of the greatest interest. It implies not that the positive or negative reality of a proposition is necessarily determined by special impulse. Though this is the case in emotionally induced belief, belief—as we have seen—might also be determined by rational process urged by the primordial impulse of general curiosity. It implies, rather, that whenever general curiosity subserves some special goal-attainment, it is compelled by adaptive necessity to exert function beyond the requirements of purely aesthetic or logical contemplation. The understanding of this proposition is aided by the following consideration. In the aesthetic attitude you apprehend the scarlet elephant and therewith your reaction ceases. Analogously, in the logical attitude your activity is restricted to a certain limited process of apprehension. That is, in these instances general curiosity, having yielded the relations of respective apprehensions, ceases. In practical activity motivated by adaptive need or by special conation, adaptation requires a further object-object consideration, requires the urging of general curiosity to a most extensive consideration of things in their very broadest rational relations to tested knowledge, resulting finally in the establishment of their positive or negative reality. We may say that, in the aesthetic and the logical attitude, although primordial curiosity is the prime motivation of contemplation, this impulse works upon a comparatively narrow plane, yielding (1) the unlikes and a certain amount of qualification of the unlikes through material from the memory-continuum, and (2) the inter-relation of these unlikes from

[11] *The Queen of the Sciences,* pp. 16-27.

the narrow viewpoint of a few laws of logic and aesthetics; these laws, as I intuitively feel, originating from the same ultimate source.

Is there no belief, no deference, involved in aesthetic and logical contemplation? I think there is. As simple isolated units the terms in which you think—aesthetically or logically—still stand for simple objects or relations, the reality of which you assert. There may also be subordinate propositions in aesthetic or logical chains of event to which you defer. Some of these, as subordinate units, may be positive or negative propositions of belief, or they may be suppositions, the reality of which is undetermined in the sense of being neither believed —positively or negatively—nor doubted. To give some examples from the aesthetic realm, suppose there occurred in *Alice's Adventures in Wonderland* the following passage: "If the Rabbit had not had a waistcoat with a pocket, he would not have had any place in which to put his watch." This would be a suppositional proposition which, no doubt, you would assert to be in itself real, though the total sequence of events in the episode in which it enters would be of no reality-concern to you, being the object merely of aesthetic contemplation. Or suppose that in the tale of *The Merchant of Venice* you would find this passage: "Portia's suitors, in order to get her father's consent to marrying her, had to choose a certain one of three boxes; accordingly, if the silver box were the right one, and Bassanio chose that one, he would get her in wedlock." This proposition, in a sense, is positively real to us, although it enters into the story of a series of events that is of no reality-concern. It contains as subordinates two suppositions which are undetermined: "the silver box is the right one" and "Bassanio chooses the silver box." I regret that I have had to invent these examples. A literary survey would yield a wealth of similar authentic illustrations.

Unless you accept as real, certain subordinate propositions in the logical or aesthetic totality the objects of logical or aesthetic contemplation would be meaningless. If you are making up a fairy tale, yourself, in order to please your little child, or if you are actually creating artistically, although the reality of your total creation is of no concern, you still defer at

least implicitly to subordinates in your creation. This has been well implied by G. F. Stout in the following passage: ". . . if we are thinking of normal men and women, we may mentally frame a narrative about them which has no reference to any actual man or woman whom we have seen or heard of. So far, the play of our ideas will be relatively free; it will not be bound down by conditions of date and place; none the less, it will be tied, inasmuch as we are not at liberty to introduce into our mental construction features at variance with the normal nature of human beings. We must not make them breathe fire, or have their heads beneath their shoulders. So far we are bound by the distinction between the credible and the incredible. There is no belief in the narrative as historical fact; but belief about human nature in general is involved in it through and through. On the other hand, suppose that the play of his imagination does not refer to actual human beings, but to certain creatures of its own; it will then have much wider range, but it will still be more or less guided by initial assumptions. The subsequent flow of ideas will be restricted by the anterior flow of ideas; if a man has started by imagining fairies inhabiting flowers, he cannot think of them as giants inhabiting castles; so that even in this case there is a certain amount of objective restriction and consequently of belief."[12]

We have reached a point in our reasoning when we affirm that, both in the aesthetic and the logical contemplation, you are urged by primordial curiosity co-operating with deference to subordinate constituents in the aesthetic and logical propositions contemplated. This, however, does not exhaust the common characteristics of the two attitudes. For there is in both a third common feature, notably a peculiar deference to certain laws of order, which (in both instances I intuitively surmise without being able to give evidence) are in some way akin. *"Non est ars, quae ad effectum casu venit."*[13] As a mere instance, the law of order called *unity in the multitude* is equally significant in aesthetics as in logical contemplation. In the aesthetic contemplation the appearance of order is im-

[12] *Manual of Psychology,* pp. 672-673.

[13] Seneca, *Epistulae ad Lucillium,* Epis. XXIX, sec. 3.

plicit in perception ("Art is science in the flesh")[14]; in the logical contemplation it is implicit in the chain of thought evolving.

Our consideration, so far, seems to indicate a very close resemblance between the aesthetic and the logical attitude. This resemblance, I believe, is a real one if we consider the two attitudes in their most ideal purity. Perhaps the following passage by Bell supports the view I have here expressed: "The requirement of independence for our postulate set is not dictated by necessity but by aesthetics. Art is usually considered to be not of the highest quality if the desired object is exhibited in the midst of unnecessary lumber. Many an otherwise good cathedral has been ruined by too many gargoyles."[15] Perhaps, in a vague manner, my view is supported also by statements such as the following:

Beauty from order springs (William King, *Art of Cookery,* l. 55).

The great artist is the simplifier (Amiel, *Journal,* Nov. 25, 1861).

We ascribe beauty to that which is simple; which has no superfluous parts; which exactly answers its end (Emerson, *Conduct of Life*: Beauty).

Nature contains the elements, in color and form, of all pictures, as the keyboard contains the notes of all music. But the artist is born to pick, and choose, and group with science, these elements, that the result may be beautiful (J. McNeill Whistler. Inscribed beneath his bust in the Hall of Fame).

Euclid alone has looked on Beauty bare (Edna St. Vincent Millay, *Sonnets*).

What, then, is the difference between the aesthetic and the logical attitude? In my notes of long ago, I find an epigram that came to me intuitively and that I noted down for future testing. It reads: "Beauty is logic perceived, logic is beauty conceived." This epigram, I still think, states one essential though perhaps not the total of the difference between aesthetic and logical contemplation on the plane of their utmost purity of functioning.

Without entering into the matter in any detail, without even offering substantial support for my opinion, I venture

[14] Jean Cocteau, *A Call to Order,* p. 7.

[15] *The Queen of the Sciences,* pp. 26-27.

to suggest that, in the aesthetic attitude—when the latter is not of ideal purity—is comprised one constituent that is always entirely lacking in the purely logical attitude. In aesthetic contemplation there is often an openness, a responsiveness to the induction of moods by any feature in the art object potent in this concern. The aesthetic contemplation, on this second level of purity, accordingly, comprises affective experience of a kind common in special conation, such affect, I am convinced, never entering into the purely logical contemplation.[16]

The aesthetic and the logical contemplation no doubt are the modes of cognition that are more free from belief or deference than any other varieties of thought process. As, however, this freedom is very far from complete, we are compelled to the conclusion that there is no form of apprehension which does not in some measure involve affirmation or denial. Without the evidence being conclusive, I am thus inclined to join party with Stout and McDougall, who both maintain that normally apprehension and belief are inseparable in all process of cognition.

Concerning the more basic question whether or not apprehension and belief are fundamentally different processes, I hardly wish to commit myself to a definite answer. Feeling perhaps most inclined to extend to all levels of cognition,

[16] I am inclined to think that aesthetically induced affect is conveyed essentially through the mediation of passive sympathy functioning on a very restricted level of activity; sufficiently broad, however, to elicit a slight reflection of affective quality and, at the same time, sufficiently narrow to exclude any further reaction of desire for a special goal. Induction of affect in the aesthetic contemplation—be this induction ever so faint—implies that the contemplator has abandoned the ideally pure aesthetic attitude, this being evinced by the fact that only slight accentuation of affective reaction may introduce reality concern in the act of apprehension and thus break the so-called "aesthetic distance."

It may be that there is a third level of even less pure aesthetic contemplation in which admiration, awe, and reverence are directly evoked—that is independent of passive sympathy—by the greatness of the object. This is characteristic of the enjoyment of the sublime. But, also in such case, I hold, the affective reactions are incomplete, yielding merely emotional quality; an incompleteness which still permits the maintenance of negative reality concern. This third level of purity of aesthetic attitude is further distant from the ideal level than the one upon which passive sympathy alone induced affect, and it is, I believe, more easily broken by the unrestricted interference of special conation.

Hamilton's view that thinking and believing are one single psychological act—though the latter be logically discriminable into two—I would suggest that, in the purely logical and the purely aesthetic attitudes, which are artificial attitudes of only brief duration adopted temporarily by human beings on a high plane of mental development, there is comprised a voluntary abstraction of reality concern from the objects contemplated—an abstraction, very likely, which is the aim and result of prolonged voluntary logical and aesthetic education and self-training. Such abstraction eliminates from the contemplation of the latter objects as wholes both affirmation and denial of their reality. In accordance with the theory stated in the present chapter, the abstraction of the reality concern consists essentially in the inhibition of all special conation relative to the objects of purely logical and purely aesthetic contemplation as wholes.

Does the mere possibility of such abstraction and inhibition—resulting in partial though by no means complete extinction of belief from apprehension—compel us to assume that, fundamentally, apprehending and believing are not only logically but also psychologically distinct processes? I confess my inability to see a conclusively valid answer to the latter question.

CHAPTER XVII

G. F. Stout and W. McDougall: On Apprehension without Deference

THE VIEWS of G. F. Stout and of William McDougall concerning the relation between apprehension and belief have been slightly touched upon in the previous chapter. As, however, they are of considerable interest, I propose to submit them here to a more detailed survey—at any rate, in some of their more important aspects.

If it is true, as James so emphatically asserts, that doubt is the real opposite of belief, we may offhand infer that the state of mind thus denominated would be one in which belief in the sense of either affirmation or denial would be absent. This, I am convinced, is not so.

Stout inquires into the nature of doubt and arrives at the conclusion that "it presupposes belief in a disjunctive judgment. It consists in acknowledging the reality of one or other of two or more alternatives without deciding between them. . . . Doubt is thus an indeterminate affirmation of a determinate reality. . . ." According to Stout, we have to distinguish between two forms of doubt: "Suspense of judgment may arise either because pros and cons are evenly balanced or because there are no pros and cons. In the former case there is a positive tendency both to affirm and deny the mutually exclusive alternatives. Indeed, under such conditions there is often a fluctuation between conflicting beliefs. . . . Such a mental attitude is certainly not indifferent as regards affirmation or denial, for it consists in a positive inclination to both. . . ."[1] This view of doubt, as we shall see in the subsequent chapter, is the one which my general theory of belief compels me to adopt. In other words, doubt is a conflict between beliefs, a conflict that in the simplest case might be one between affirmation and denial of, or positive and negative belief in, the reality of one and the same psychological object. But Stout claims

[1] *Analytic Psychology*, I, 101-102.

that there is also another form of doubt, in which the latter state arises merely because there are no pros and cons. "I may toss a penny in the air," he writes, "without having the slightest ground, valid or invalid, for mentally affirming that head will turn up rather than tail . . . in any particular instance I may not feel an inclination to believe that one will occur rather than the other. My attitude towards the question may be neutral. . . . Doubt in this pure form seems to imply the presence of ideas and the absence of corresponding judgment. . . . And yet," Stout continues, "this result is not satisfactory. In doubting we must at least *propose a question* to ourselves Now, we cannot raise a question without regarding the alternative answer to it as capable of being affirmed or denied. It cannot therefore be quite accurate to say that the indeterminateness, even of that dubitative attitude which arises from sheer ignorance, consists in the absence of all reference to an object in the way of affirmation or denial."[2]

I have much hesitation in accepting Stout's neutral doubt as anything but a logical situation. Psychologically, if the way in which the coin turned up were of no concern whatsoever to a man, he would not toss it; and if it were of concern to him, that is, if the satisfaction of some special conation on his part were depending upon it, as in the case of gambling, he would experience that state of mind which McDougall calls anxiety, and which—partly following McDougall—I would interpret as a conflict between implicit beliefs. Thus, while rejecting as a psychological reality Stout's alleged neutral doubt, I would agree with him that all doubt comprises the belief in disjunctive possibilities. Broadly speaking, I would thus be able to maintain my definition of doubt as a conflict between beliefs, a definition which emphasizes, even more than Stout's analysis, the fact that the state of doubt is not a condition free from affirmation or denial, or, as I should express it, free from belief or free from deference.

Doubt is one of the states of mind in which we may be supposed on first view to confront apprehension without deference. Stout thinks that there are two more states of mind in which this might offhand seem to be the case, notably

[2] *Ibid.*, I, 102-103.

the state of mind in play of fancy or make-believe, and the state of mind characteristic of aesthetic contemplation. He submits both to analysis and, as in the case of doubt, his analysis demonstrates the inadequacy of the offhand supposition.

"The play of fancy," he writes, "or 'make-believe', as children call it, does indeed involve, after a fashion, some determination of the mind as regards truth and falsehood. The child who 'makes-believe' that her doll is a baby, affirms of it what is consistent with her notions of babyhood, and denies whatever is inconsistent with them. She endeavours to develop her little drama in a coherent way, refusing to admit contrary suggestions. If her doll-baby is just about to be christened, she indignantly rejects the idea that it should be put in its cradle or play with its rattle. The same kind of artistic truth and falsehood exists also for poets and novelists and their readers. The heroine of a romance must not have raven tresses on one page and golden locks on another. . . ."[3]

I have only two comments to make upon this passage. First, I would like to point out that what in late childhood is make-believe is in early childhood, before the reality-function has matured, actual belief, and that, no doubt, there is a gradual transition from the latter to the former. Secondly, the claim of a certain consistency with the natural order of things, evident in make-believe, is probably an expression of the fact that in all fancy we adhere to certain real characteristics of the elements we elaborate, this being true whether or not the totality of our elaboration is of reality-concern. In other words, a certain measure of consistency, even in fancy, indicates that the latter is not devoid of apprehension of and belief in realities of some order, a proposition which I have dealt with in more detail in the previous chapter of this work.

In the continuation of his discussion of make-believe, Stout abandons make-believe proper—that is, the childhood phenomenon—and deals entirely with the illusion of artistic literary creation.

"This affirmation and negation within the universe of discourse of fiction itself . . .", he writes, "is only one aspect of

[3] *Ibid.*, I, 103.

the question. We have to consider the attitude of the mind in *making* belief, as well as the belief thus manufactured.

". . . it is evident that so far as the illusion extends, and so long as it lasts, there is at least an absence of disbelief. In the next place, the absence of disbelief seems in general to depend on the voluntary exclusion of the question of truth or falsehood, and of all considerations which would suggest it. We do not say *'no'* to the chain of feigned scenes and incidents as a whole, because we disregard from the outset the alternatives 'yes' or 'no'. The moment that the question of whether or not the things we are thinking of exist is in any way brought before our minds, we unhesitatingly deny their existence. The illusion persists only so long and so far as it is unchallenged."[4]

This passage seems to be in perfect harmony with the essentials of my analysis in the previous chapter. Stout evidently describes the absence of reality-concern in aesthetic contemplation. His emphasis on the fact that the illusion endures only until it is challenged seems to me to bear out my proposition that the reality-concern of the aesthetic object as a whole is inhibited as a result of the inhibition of all special conation relative to the latter object. Being inhibited perhaps only slightly, it is implicitly or subconsciously present and ready to manifest itself explicitly on the very faintest instigation.

Stout continues: ". . . the play of imagination, while it lasts and so far as it extends, necessarily excludes all questioning as to the reality of the creatures of fancy, which we nevertheless think about as if they did exist. But if we do not deny or doubt, may we not be properly said momentarily to affirm the existence of these imagined objects which we think of as existing? This view seems to be open to a very serious, if not fatal objection. It seems scarcely possible to understand the existence of a belief which disappears as soon as its contradictory is suggested,—which vanishes the moment it is challenged . . . a belief which does not occasion the denial of its contradictory, when the idea of its contradictory is suggested, is scarcely to be distinguished from no belief at all. Indeed, I hold that it is no belief at all. . . ."[5]

[4] *Ibid.*, I, 104.

[5] *Ibid.*, I, 104-105.

The outcome of Stout's analysis, then, seems to be that, with reservation for the "affirmation and negation within the universe of discourse of fiction itself," there is in the attitude of man towards the aesthetically contemplated object an absence of belief and doubt. This is due to a peculiar state of mind in which the reality-concern of a contemplated object as a whole is abandoned. Stout gives no account of the mental processes from which this state of mind ensues, while I have tentatively suggested that it is the result of a process of voluntary inhibition or repression. Aside from this incompleteness of Stout's argument, as far as it goes, it is in harmony with my view. We both agree that in the aesthetic contemplation, as far as the latter is conscious experience, there is an apparent relative divorcement of apprehension and belief. The contemplated object as a whole is of no reality-concern, while there is still affirmation or denial of subordinates in the total aesthetic propositions. The divorcement of apprehension and belief, according to my view, is less fundamental than Stout thinks; for it consists merely in belief being subconscious on account of a voluntary act of temporary inhibition, the cultivation of the capacity for such inhibition constituting perhaps the most important feature of aesthetic training.

Stout, in a specially numbered paragraph, takes up the problem of the relation between apprehension and belief in the enjoyment of the most abstract of art-forms, music and architecture. He justly claims that in these art-forms, the divorcement of apprehension from belief is more complete than in the literary art-forms; yet, to my mind, he slightly exaggerates the difference in this concern:

"We find a closer approximation to complete severance of simple apprehension from judgment in that attitude of aesthetic contemplation which characterises the enjoyment of such arts as music and architecture. A conspicuous difference between these arts and the fiction of poetry and prose is that they are not essentially imitative. The question does not arise whether they are true to life or to nature. Further, though there is a demand for internal consistency and harmony in the products of music and architecture, this internal harmony and consistency is not that of a system of judgments; it is purely

aesthetic. . . . A person listening to a piece of music, and giving himself wholly up to the enjoyment of it, apprehends the several notes, their time-sequence, and their other relations. But he does not frame judgments, either verbal or purely mental, concerning these matters. He is simply aware of them, and enjoys them. . . . *Mutatis mutandis,* the case of architecture is analogous to that of music. It is true that here judgment is more apt to intervene, because the aesthetic attitude is usually less persistent and absorbing. . . . Painting and sculpture may be said to occupy a middle position between verbal fiction and the actor's art on the one hand, and music and architecture on the other. They are more imitative—they contain more make-believe—than the latter, and less than the former.

"The distinction between simple apprehension and judgment remains, even in aesthetic contemplation, only a relative one. . . ."[6]

My only comment upon this passage is as follows: I believe that even the most abstract arts suggest things and activities of a concrete nature and of a nature denotable by words. I think this is the case particularly whenever the abstract arts suggest to the contemplator an emotional mood, for, in these instances, it would seem as if the art-object in some way, implicitly or explicitly, stands for or means an emotional gesture. If this is true, art, or at least emotional art, is never completely abstract; and to the extent in which it evokes imagery, the contemplation of it will comprise, as in the literary arts, deference to things as subordinate constituents of the whole. Notwithstanding this reservation, I agree with Stout's claim of a relative difference in degree of divorcement of apprehension and belief in musical or architectural contemplation, on the one hand, and in literary and pictorial contemplation, on the other. Even if, in the former, deference to concrete subordinates would be slight, there is still, as Stout himself points out, the deference to the aesthetic laws of order which is common in all aesthetic contemplation.

In the second volume of his *Analytic Psychology,* where Stout has a chapter upon belief just as he has one in the first volume of the same work, he discusses under a special heading

[6] *Ibid.,* I, 106-107.

what he calls *imagination*. What he actually deals with is imagination in a very narrow and restricted sense, for his topic, in fact, is the creative imagination of the author of fiction. His analysis of the latter is very pertinent to the problems of the present and the previous chapter of my work, and I shall quote it not quite in full but in fair completeness:

"To imagine is simply to think of an object, without believing, disbelieving, or doubting its existence. How is this mental attitude possible? In the first place, a negative condition must be fulfilled. Those associative and apperceptive combinations which would destroy or repress the imagined combination, must lie dormant. In reading a fairy-tale, a wide circle of ideas embracing our knowledge of natural causation, must be in abeyance, if there is to be an illusion. But this in itself is not enough; it serves to make certain mental combinations possible which would be otherwise impossible; but it does not explain why these combinations are merely floating ideas, and not beliefs. In the hypnotic trance, and in dreams, ideal representations take place which the normal conditions of waking life exclude; and the reason is, that the mental dispositions which would interfere with them are for the time being inoperative. The result, however, is not imagination, but absurd belief. The difference may be in part accounted for by the difference in the mode in which interfering conditions are excluded. The apperceptive dispositions which fail to exercise their controlling influence in dreams, are rendered inert by circumstances independent of our subjective wish or will. In trains of imagination, on the other hand, they are absent, merely because the direction of our subjective interest for the time being excludes them. But this distinction, again, is not adequate; for in the blinding influence of passion, we find dominant desire paralysing the action of those constituents of the mental system, which might interfere with a certain train of ideas; and yet the result is, not imagination, but biassed belief. A person carried away by passion is ready to act on his perverted judgment, and to make it the basis of reasonings, leading to new beliefs. But the attitude of imagination is quite different. The imagined combinations, as such, are never made the basis of action with a view to an end, or of reasoning

with a view to the establishment of a fact. So soon as the mind begins to treat its floating ideas as a means to the realization of an ulterior end, theoretical or practical, opposing mental combinations, which have previously lain dormant, immediately springing into action destroys nascent belief."[7]

As the latter is a very important statement, the significance of which should be fully clear to the reader, and as Stout in his *Manual* offers an excellent illuminating example, I shall interrupt the quotation from *Analytic Psychology,* and insert the passage concerned from the former work:

"A man sitting in his arm-chair can easily imagine himself killing a lion by a blow of his fist. But suppose that he meets an actual lion, and has to look to his own safety. This ideal combination is no longer possible for him; the idea of the lion pouncing on him and tearing him to pieces takes possession of his mind, and excludes the fanciful picture of his own powers. The same may happen without his actually encountering the lion. If in his arm-chair he is planning a hunting expedition to take place the next day, such ideas as that of killing lions with a blow of the fist will be excluded, and they will be the more completely excluded the more strenuous he is in the pursuit of the practical end in view."[8]

Then, the continuation of the quotation interrupted:

"We here find the essential positive conditions of constructive imagination. The activity of ideal combination exists for its own sake, and not for an ulterior end. It is not directed towards any actual change in the external world, or towards the extension of the preformed body of beliefs. Hence the imagined combinations do not present themselves in that relation to activity which, in agreement with Bain, we hold to be essential to the believing attitude. It is true that the activity of imagination has an end in view,—an aesthetic end, it aims at bringing pleasing elements into pleasing relations, so as to constitute a pleasing whole. But the means for the attainment of this end are not the imagined objects as such, but the representation of them. So far as the mind considers its mental combinations with respect to the aesthetic end, its attitude becomes critical, and gives rise to aesthetic judgments, not to the

[7] *Ibid.,* II, 260-261. [8] *Manual of Psychology,* p. 671.

play of fancy. Such judgments relate largely to the internal congruence of the different parts of the aesthetic whole. This constitutes one form of truth in artistic imagination. Combinations within the imaginative process must be consistent with each other, however free they may be from external control."[9]

In commenting upon this passage from Stout's analytical psychology, I shall leave aside the fact that, without qualification, he identifies imagination with aesthetic creative process, excluding from imaginative activity all memory process which constitutes imagination with belief; also that his statements upon the condition of hypnotic trance and dreams are not fully adequate. Reviewing the essential points of his discourse, we cannot fail to notice the close harmony between these and the important parts of my own treatise: Aside from the fact that we agree in considering the aesthetic contemplation the approximation to apprehension without belief, there are two statements in the passage from Stout's writing that particularly deserve to be called to attention.

I: "The imagined combinations, as such, are never made the basis of action with a view to an end. . . ." This seems to be stating essentially what, in consistent hormic terms, I express in the proposition that in aesthetic contemplation no special conation plays a part.

II: Aesthetic judgments: "Such judgments relate largely to the internal congruence of the different parts of the aesthetic whole. This constitutes one form of truth in aesthetic imagination." I believe that the content of this statement conforms closely with my proposition that, in the aesthetic contemplation, there is deference to and belief in certain laws of order which, to my mind, are ultimately derived from the same source as the laws of logic.

Stout, to my knowledge, voices no recognition of a purely logical mode of contemplation, which, like the aesthetic contemplation, approximates apprehension without deference.

McDougall, in his *Outline of Psychology,* has only a short paragraph upon the problem of apprehension without belief.

[9] *Analytic Psychology,* II, 261-262.

He states his opinion that "affirmation or denial . . . normally . . . accompanies cognition." He makes a reservation, however, for the cognition prevailing in the aesthetic attitude:

"It is of the essence of the aesthetic attitude that we do not inquire into the reality of that which we contemplate. We are content to contemplate without belief or doubt; we accept and enjoy the appearance, without inquiry into the reality of that which appears, just because the appearance yields an immediate satisfaction and is so presented as to avoid stirring us to desire and action. How this is achieved—whether by balance of conflicting impulses, by restraint, by the preservation of psychical distance, by detachment from reality—this is the artist's secret. In aesthetic perception we are fully occupied in mere apprehension; conation is, relatively at least, in suspense, and therefore, also, judgment and belief. This attitude is not easily attained; nor can it be maintained for long by those who attain it. Simple apprehension is, then, a late acquired attitude which we maintain but rarely and briefly. . . ."[10]

While Stout gives no account whatsoever of the conation urging the aesthetic contemplation, and while McDougall, in the passage quoted, seems to imply that the latter is relatively independent of conation—this being of course impossible—in a more recent work, McDougall suggests, as Carl Lange has done before him, that admiration is a most important conative attitude entering into aesthetic contemplation.

". . . some conative energy," writes McDougall, "must be evoked by the object, or we should not contemplate it and should find no pleasure in it if we did. The most fundamental problem of aesthetics, then, is—What is the nature of the conation which works in us as we appreciate beauty and which attains satisfaction in and through the activity of contemplation?

". . . There is one familiar emotion which is commonly evoked by beauty: not only do we enjoy beauty, find joy or some kind of satisfaction in it, but also we admire the beautiful object. . . . Now *admiration* seems to be the name we properly

[10] *Outline of Psychology*, p. 376.

give to our state when any object evokes in us at the same time both curiosity and the submissive tendency; the emotional quality seems to be, or to result from, a blending of wonder and the submissive emotion.

"Perhaps it is true that whatever we admire seems to us in some degree beautiful, and even the more beautiful the more strongly we admire it. . . ."[11]

In view of the fact that McDougall conceives of curiosity and submission as instincts or modes of special conation, his theory of admiration as the basic conation in aesthetic contemplation becomes incompatible with the hypothesis I have propounded in the previous chapter of the present work. Yet it is a phenomenon of singular interest that the former theory could be made closely, though not fully, harmonious with my own, if McDougall only modified his definition of the two impulses concerned along the lines I have suggested. This modification would comprise two important features:

I: Curiosity and submission would have to be interpreted as general impulses, not as instincts; the former, furthermore, as an impulse the function of which does not stress the ego-reference of its aim.

II: Submission would have to be understood, not merely as a social impulse—as McDougall describes it—but as an impulse of the same broad significance as primordial deference, as postulated by me.

McDougall, like Stout, has failed to take note of a purely logical mode of contemplation, which, as well as the aesthetic contemplation, seems to be a form of apprehension relatively free from deference or belief.

[11] *The Energies of Men,* pp. 163-164.

CHAPTER XVIII

Belief as a Mode of Experiencing

L'espérance, toute trompeuse qu'elle est, sert au moins à nous mener à la fin de la vie par un chemin agréable.

La Rochefoucauld, *Maximes,* No. 168.

Quoique mort à la foi qui m'assurait de Dieu
Je regrette toujours la volupté de croire.

Charles M. Guerin, *Quoique Mort.*

WRITERS BEFORE McDougall have failed to distinguish between the three aspects of the problem of belief which he points out so clearly: (1) the problem of belief-engenderment, (2) the problem of belief as an enduring mental disposition, and (3) the problem of belief as a mode of experiencing. This failure on their part has resulted in a certain confusion in their treatment of the topic of the psychology of belief as a whole, and in a deplorable neglect particularly of the third of the problems concerned—the problem of belief as a mode of experiencing. James Ward, William James, and G. F. Stout, all seem to acknowledge that there is an affective constituent in believing, but they do not seem to consider this fact to be of sufficient theoretical significance to deserve a more deeply going inquiry. Even James, who, more emphatically than the rest, holds forth that belief is a mode of experiencing akin to emotion, fails to relate the particular emotion of belief to other emotions known.

James Ward, under the subhead *Effect of Belief,* suggests that "a formal feeling of satisfaction" accompanies belief, this feeling being essentially due to the relief of "suspense and uncertainty" that obtains in belief.[1] William James states bluntly: "In its inner nature, belief, or sense of reality, is a sort of feeling more allied to the emotions than to anything else."[2] G. F. Stout has very little to say about belief as a mode of experiencing. The feeling aspect of belief, to my knowledge, he touches upon only in the following passage: ". . . we may say that we 'feel a belief'. This is not merely

[1] *Psychological Principles,* p. 353. [2] *Principles of Psychology,* II, 283.

due to the emotional coloring often associated with belief; for we can also say that we 'feel convinced' or 'assured,' in instances where this emotional coloring is inconspicuous or absent. Thus it is permissible to say that we 'feel a conviction' or 'assurance' that Charles I. was beheaded in the year 1649. . . ."[3]

Indeed, the treatment of belief as a mode of experiencing would be very meager if McDougall himself had not made an important contribution to the problem. He, so far as I know, is the only psychologist who has offered a logical and comprehensible theory concerning the nature of belief as a mode of experiencing. I shall present his view in the form of a fairly extensive series of extracts from his writing upon the topic; then, I shall examine the former in the light of the general hypothesis of belief expounded in the present treatise. McDougall writes:

. . . What . . . is the nature of that peculiar mode of being conscious which we call belief? That belief is a distinct quality of experience we realize if we compare it with our state of simple imagination of some event, or with one of doubt about it. . . .

Belief is the normal result of judgment in reply to a question of fact. But, though resulting from judgment, it is not to be identified with it—with *affirmation* or *denial;* judgment is an act; belief is an enduring state resulting from judgment. . . . I hope to show, [that] it is allied, both in its nature and in respect to the conditions which determine it, with a group of universally recognized emotions, modes of experience to which common speech unhesitatingly assigns the status of emotions. . . .

. . . what kind of an emotion is it? What is its relation to other emotions? How shall we classify it? What are its nearest relatives among the emotions? We may first enquire,—Is it a *primary emotion?* . . . [To this question McDougall answers: no.]

But, though 'belief' differs from the primary emotions . . . it resembles them and claims membership in their class . . . the primary emotions impell us strongly to action . . . belief seems to have a similar function, or power of impelling us to action. . . .

Each primary emotion, or the instinctive impulse with which it is associated, has its natural goal or specific end. . . . But it is impossible to assign any such specific end to belief. Belief is an

[3] *Analytic Psychology,* I, 98.

end in itself . . . it is a *terminus ad quem* rather than a driving power. . . .

If belief is not a primary emotion, neither can it be classed with the compound emotions, . . . which seem to be formed by the blending of two or more of the primary emotions. . . . If, then, belief is an emotion, . . . what sort of an emotion is it. . . ?

. . . I submit that 'belief' belongs to that class of emotions which I have recently discussed under the heading, 'the derived emotions'. The principal members of this class are confidence, hope, anxiety, despondency, despair, and regret . . . all these 'derived' emotions are members of, or named points in, a continuously graded scale of emotional experiences which may accompany and qualify the operation of any strong desire. When such desire works towards its goal unhampered by any thought of the possibility of failure . . . the emotional state is one of *confidence.* When some circumstance suggests or indicates a faint possibility of failure, the emotional state changes from *confidence* to *hope;* if the possibility of failure is more strongly indicated, *hope* changes to *anxiety.* . . . When the mere possibility of failure becomes a clear probability, the emotional state changes to *despondency;* and when that probability becomes a certainty, *despondency* becomes *despair.* Finally, when the failure is completely established . . . we experience a thwarted and therefore painful restrospective desire, which is *regret.* . . .

. . . The attitudes and expressions of these emotions are not specific in the same way as those of the primaries. . . .

These emotions . . . are determined by our intellectual apprehension of the degree of probability of the success of our efforts towards any strongly desired end. They are in no sense conative forces, as are the primary emotions. They are not, like these, causes or agents in mental process; they are rather effects, joint effects of cognitive and conative operations. The so-called energy of *hope* (or of *anxiety,* or of *despair*) is the energy of the desire whose operation the emotion qualifies.

What then is the place of *belief* among these derived emotions? I submit that *belief* is essentially the same as *confidence.* The only difference is one of intellectual plane. When the plane of activity is one of practical bodily striving, we properly speak of *confidence,* if our striving is untroubled by any anticipation of failure. When our striving proceeds in similar untroubled fashion on the purely intellectual plane . . . we properly describe our emotional state as one of *belief.* . . .

. . . I submit that *doubt* also belongs to this group of derived emotions, and that its place may be defined by saying that it stands to *anxiety* in the same relation that obtains between *belief* and *confidence;* namely, *anxiety* and *doubt* are essentially the same emotion, but experienced on the planes of practical and purely intellectual activity respectively.

. . . [The] efficacy, power, or energy [attributed] to *belief* is not truly a function of that emotion. . . . When confident of attaining our goal, we concentrate our energies along the line of action that lies clear before us; and our activity is sustained by the pleasurable anticipation of success. In *anxiety* our energies are dissipated by conflict of inharmonious tendencies and depressed by the pain of anticipated failure. In the same way, when our aim is to know, when our goal is knowledge, and when our mental process reaches a conclusion with which no other knowledge stands in conflict or contradiction, we accept the conclusion with *belief*. . . . But, when our striving to know issues in two or more logically alternative conclusions, either one is entertained with *doubt*. . . .

. . . The objects we perceive . . . are so perceived just because they . . . appeal to . . . evoke some conative tendency. . . Primitively every such object is accepted as real. But, on the plane of perceptual activity, we do not properly say that our acceptance of the object as real involves *belief* in its reality on our part; rather we must say that we react upon it, or act in regard to it, with *confidence.* This is the *primitive confidence* of instinctive behaviour.

When action reaches the plane upon which we work towards our desired ends, not by aid of some merely perceived means, or means suggested . . . by a simple process of memory or recollection, but when we work rather by means chosen by reason . . . then we properly speak of *belief*. . . .

Belief that is to say is instrumental, it is the emotion which qualifies our acceptance of particular means towards a desired end; it is the emotion of *confidence* which qualifies the working of conation on the higher plane of imaginative choice of means to a desired end. . . .

Belief in the fullest sense is always preceded by *doubt,* deliberation, and choice of means. Such hesitation, such *doubt* brings out by contrast the full flavour of the emotion of *belief,* if and when the *doubt* is resolved, especially if suddenly resolved. . . .

On the higher intellectual plane of mental life, our plans of action are the hypothesis we chose as guides to action. A *belief*

is thus an hypothesis which we hold as a guide in the line of action towards the achievement of the ends we desire and will.

Such is the nature of scientific beliefs. . . .

Such also is the nature of moral belief. . . .[4]

The root of the difficulty in harmonizing McDougall's view of belief as a mode of experiencing with my general theory of belief, lies in the fact that, in McDougall's opinion, belief is not energetic in the sense in which the primary and the blended emotions are energetic; in other words, it is not an experience that qualifies in consciousness the purposive function of a mental system that is itself a source of energy. In spite of this state of affairs McDougall admits that belief and confidence both seem to effect a concentration of, and even an increased generation of energy on the part of the purposive mental unit at work, an effect that he ascribes to the anticipation of pleasure of success that always coincides with the two affective qualities concerned. In *The Energies of Men* he is very explicit in stating the rôle of pleasure as not only concentrating but also enhancing effort and the rôle of pain as not only diverting but also actually weakening effort. He states the two laws of pleasure and pain as follows: "Pleasant feeling re-inforces, sustains, supports the striving process which gives rise to it, reacts upon it to intensify it, augments the energy of striving; and it favours the repetition of similar striving whenever, on a later occasion, we find ourselves in a similar situation. Unpleasant feeling checks and weakens striving, diverts it into other channels, leads us to modify our line of attack, to choose other means for working towards our goal; and it makes against the recurrence of striving along the same lines, when any similar situation recurs."[5]

What McDougall here writes is excellent description but hardly explanation; for, instead of attempting to derive the phenomenon concerned from more basic psychological principles, he makes the rôle of pleasure and pain—as described—a psychological ultimate, postulating that by intrinsic and not further analysable nature pleasure and pain enhance and depress effort respectively.

[4] "Belief as a Derived Emotion."

[5] *The Energies of Men,* pp. 138-139.

G. F. Stout, following Bain, points to the rôle of confidence and doubt in striving, without, however, tying it up with pleasure and pain. Abstaining from any attempt to offer an adequate explanation of this rôle, he merely states what every layman is well aware of: ". . . When we are fully convinced that a certain train of events will issue in a certain desired result, we aim at the production of this train of events with an energy of pursuit equal to that of the primary conation . . . uncertainty or doubt is itself a condition which obstructs action. . . ."[6]

Historically, it was partly in view of the insufficiency of Stout's and McDougall's treatment of the matter referred to above that I felt urged to propound my hypothesis of primordial deference (compare the Foreword to my *Conation and Our Conscious Life*).

Going beyond McDougall's theory of belief, is my own proposition that 'the belief' as an enduring structural unit of mind is a seat of conative energy, more especially of deferent energy; that is, I hold 'a belief' to be a cognitive-conative disposition; in this respect, accordingly, 'the belief' being akin to all the sentiments. The important difference between 'the belief' and the latter is, then, not that 'the belief' is non-energetic, but rather that it is a mental unit of structure and function, the conative constituent of which is a general impulse, notably the impulse of primordial deference, while the sentiments are the seats of highly specialized conations.

In view of this interpretation of 'a belief' as a cognitive-conative disposition, I am logically bound to regard belief as mode of experiencing, the conscious qualification of the functioning of 'the belief.' Such consideration brings the affective experience of belief in close kinship with the primary emotions; it is true with the reservation already stated that belief qualifies the working of a general impulse, not the working of special ones. Since, however, according to my theory, "a belief" never functions alone but always in conjunction with special impulses, it follows that the emotion of belief—just as the sensations or as the component of dissatisfaction that is yielded by primordial curiosity—is an (X) which is never

[6] *Analytic Psychology,* II, 235.

experienced per se. The co-activity of belief and special conation might be either one of two kinds: co-operation or conflict. I have suggested (in *Conation and Our Conscious Life*) that co-operation of belief with special impulse is qualified by the experience of confidence. I hold this relation to apply on all levels of mental activity, confidence, accordingly, being not merely a mode of experiencing connected with the primitive expressions of goal-seeking activity, as was propounded by McDougall.

Confidence, then, in my sense of the concept, comprises the (X) of belief proper, but, in addition, it comprises a quality yielded by the emoving sub-process of special conation. As confidence, independent of the nature of the special tendency at work, always remains approximately the same quality of experience, it follows logically that the constituent contributed to it by the special impulse must be one that is common to all modes of special conation. As the interoceptor sensations which differentiate the emoving awareness sign of special conation into emotions vary from impulse to impulse, the contribution to confidence by the special tendencies can only be the urge experience. McDougall has convincingly pointed out that this experience is not sensorially determined, and is common to all impulses, varying from time to time only in intensity.[7] In conclusion, confidence is a blend or fusion of a quality (X), which may be called belief proper, with the feeling of striving or urge qualifying the function of the special impulses, the latter component being distinctly traceable by introspection or retrospection upon an experience of confidence.

I have also suggested that anxiety is the quality of experience which coincides with the conflict between the deference of various beliefs or between the deference of beliefs and the impulse of a special conation. Anxiety, then, like confidence, comprises the (X) of belief proper plus the feeling of urge of a special conation, but, in addition, it comprises the pain that always accompanies the awareness of mental conflict and frequently a slight apprehension associated with the latter pain, the presence of the latter three components in the state of

[7] *Outline of Psychology,* pp. 317-320.

anxiety being evident in introspection. Confidence and anxiety, naturally, are further qualified by the coinciding meaning processes, notably, in one instance, the thinking of success as a certainty, in the other, the thinking of failure as a fair probability.

The term *doubt,* I suggest, applies properly to a state of anxiety in which the pain of conflict is but slightly noticeable and devoid of associated apprehension, the latter proposition again being based essentially on the introspective analysis of the mental conditions popularly denoted as anxiety and doubt. Here might be a point of contact with McDougall's theory, in this respect, that the comparatively painless and fearless anxiety which I have called doubt, is probably more likely to appear when desire expresses itself on the high plane of mental functioning which we denominate as reasoning. As such activity represents a switch of emphasis from a special conation to co-operating primordial curiosity, we may perhaps say that doubt arises when conflict between beliefs occurs in the rational investigation of object-object relations, urged by dominating primordial curiosity. It should be noticed, however, that, according to my theory, doubt can never be interpreted as the psychological opposite of the (X) we have called belief proper, because that (X) is an awareness quality which is unknown per se, and the accompaniment of the mere functioning of 'the belief'. Doubt, on the other hand, is the psychological opposite of confidence, being perhaps anxiety intellectualized.

The majority of the accessory propositions claimed by McDougall to be characteristic of belief are out of harmony with the basic features of my view of 'a belief'.

This is true of all the following claims—a matter that requires no comment: (1) Belief is the normal result of judgment in reply to a question of fact; (2) belief has no special end; (3) belief and confidence are the same emotion; (4) the naïve comprehension of the object perceived as real is not belief; and (5) belief in its fullest sense is always preceded by doubt.

In spite of the apparently destructive criticism of McDougall's theory, offered above, his analysis of belief and doubt as modes of experiencing represents an admirable step

forward in the understanding of the latter emotions, leaving far behind the efforts of interpretation of men like William James, James Ward, and G. F. Stout. If my hypothesis concerning 'a belief' should prove to be fallacious in the light of criticism, McDougall's theory will remain the closest approximation to a comprehensible elucidation of belief and doubt as affective awareness signs qualifying purposive endeavor.

It is not merely confidence and anxiety which obtain a specific significance in the light of my theory of 'the belief'; the same is true of all the so-called prospective emotions of desire. The relation between each emotion of the latter group and belief, on the one hand, and special conation, on the other, can be briefly stated as follows.

Co-operation and conflict between the central impulse of a special conation and deferent impulses of beliefs, activated during the course of the former, generate peculiar awareness signs of their own. On all levels of life the meaning of an ego-object-relation-to-satisfy-a-need comprises the anticipation of the outcome of effort, more especially of successful outcome. Such anticipation always coincides with a peculiar quality of awareness, namely, confidence. If during goal-seeking activity a belief of any kind is activated, the deferent impulse of which supports the central conation, then, the anticipation of success becomes accentuated and the quality of confidence enhanced. If, on the other hand, a belief is activated, the deferent impulse of which conflicts very slightly with the central conation, then, the anticipation of success becomes slightly reduced, and the awareness quality of confidence changes into hope. If the deference of a belief conflicts more intensively with the special impulse, the anticipation of success begins to alternate with anticipation of failure, and hope turns into anxiety. If the counteraction of the central impulse by the conflicting deference of a belief is very powerful, anticipation of failure dominates the anticipation of success, and the anxiety is transformed into despondency. Finally, if the deference of a belief is sufficiently strong to deadlock the central impulse, then, the anticipation of success vanishes completely, leaving room for anticipatory conviction of failure. Coincidingly, despondency turns into despair.

It need hardly be stated that in complex types of conation several special impulses and several beliefs may co-operate or conflict. The emotional qualities generated, just as the anticipation of outcome of the effort, are, then, ultimately determined by the resultant of all the conjointly functioning modes of conation.

Co-operation of the deference of belief with special conation always intensifies the effort applied to the moving process of the latter, this intensification being attributed by the layman to the awareness quality of confidence, by McDougall to the anticipated pleasure of sucess, by me to the actual availability of more free energy. Conflict between the deference of belief and special conation always deducts from the effort put into the moving process, a deduction that, in the case of strong conflict, the layman attributes to despondency or despair, McDougall to the anticipated pain of failure, and I to the useless expenditure of energy in conflict.

Summary

A complete treatment of the psychology of belief requires the consideration of its problems from three aspects: (1) how are beliefs engendered; (2) what is the nature of belief as enduring mental disposition guiding conduct; and (3) what is the nature of belief as a mode of experiencing. The present work attempts to give a rational answer to all these three questions. Chapters I-XI deal with the psychology of belief-engenderment; Chapters XII-XV, with the psychology of belief as enduring disposition; and Chapters XVI-XVIII, with the psychology of belief as a mode of experiencing.

In the subsequent summary each numbered division epitomizes the content of a correspondingly numbered chapter.

(1) A little child will believe in the existence of fairy-land and of the "big bad wolf" if stories about these are told to him. In a slight degree the establishment of such belief might be due to submission to the authority of the story-teller. But the themes concerned will not become objects of enduring belief unless impulses other than submission to authority are at work—impulses directly related to the themes themselves and independent in their function of the psychological presence of an authoritative person. These impulses might be of two kinds: impulses of desire and of aversion, the former being the ones carrying the belief in fairy-land, the latter the belief in the "big bad wolf." The principle involved in the engenderment of these beliefs is the same as the one accounting for the credulity of primitive man, who seems to believe in the reality of everything that is strongly wished or strongly feared.

Childhood beliefs of the kind referred to endure only for a few years. How are they corrected and abandoned? Again authoritative suggestion, hostile to the reality of the themes believed, might break down the belief. But another principle is also effective: one that may be called the *rational principle* to distinguish from the *emotional principle,* the latter being the one responsible for primitive credulity and for the immature childhood beliefs in fairy-land.

In order to understand the rational principle, we have to examine a basic phenomenon in the psychology of apprehension. Whenever an impulse is strongly tending towards an end, this end is thought in paramount relation to the self, as something intimately concerned with a subjective need. This is the way the believing little child thinks of fairy-land and the "big bad wolf." As the child grows older, there develops a tendency to consider things, not merely in ego-relation to subjective needs, but in objective relation to other things at large. The latter is a centrifugal; the former, a centripetal reference of the object considered. The centrifugal consideration of object-object relations leads to comparison and to the discovery of enduring similarities and differences between things. As the child applies this consideration—on the one hand, upon the themes of fairy-land, and, on the other hand, upon the things he becomes acquainted with in practical undertakings —he finds that the latter, that is, the objects perceived, offer a resistance to his endeavor of changing them, which the imagined objects of fairy-land fail to do. This stands out as an enduring sign of distinction between the two groups of things: those perceived and those imagined; and finally, the child learns to consider only the former as realities, while the latter are sifted out from the realities and recognized as fancies. Along with this development the impulsive attitude towards the fancies abates.

The two principles involved, respectively, in the advent and decline of belief in fairy-land—notably the emotional and the rational principle—are the ones responsible for all induction of belief on all age-levels of man.

(2) In childhood, boyhood and girlhood, and early youth it is common to develop hero-admiration. This is sometimes initiated by suggestion from an authoritative person, but, as with the belief in fairyland of the little child, it will not become an enduring attitude unless the hero himself becomes the object of esteem independent of suggestion.

Hero-admiration comprises the belief in the distinction of the hero. It is mostly concerned with one or a few narrow characteristics of the latter, such as courage, great muscular strength, or what not. The emotional attitude of admiration,

however, urges the elaboration of a myth around the hero's person, in which he is given, on purely imaginative ground, all the virtues known.

Hero-admiration of the primitive type described does not endure. It might be broken through suggestion on the part of authority, suggestion degrading the achievement of the hero. This, however, is not the most important process by which immature admiration is eradicated. The important process, just as in the case of the decline of belief in fairy-land, is the growing tendency to rational consideration of things, or in the case concerned the consideration of the hero, not primarily in his emotional ego-relation, which is the aspect dominating the admiring attitude, but in his centrifugal relation to other things and circumstances. In the light of the latter consideration his alleged virtues will gradually appear to be illusions, and finally the hero falls, a broken, gallant ikon.

In the appearance and downfall of the immature beliefs in heroes, as in the advent and decline of the belief in fairy-land, then, we see involved each of the great principles of belief-engenderment: the emotional principle accounting for the formation of hero-admiration, and the rational principle accounting for its decay.

(3) Is there no case of belief-engenderment simply through submission to authority? The only pure instance would be the belief induced in a post-hypnotic state by preceding suggestion during hypnotic trance. If McDougall's theory of suggestion and hypnosis is adequate, which there is no valid ground to doubt, such belief would represent conviction engendered by sheer submission to the operator of the hypnotic condition. Beliefs induced by hypnotic suggestion are to the best of our knowledge only of transitory duration.

In education the mere evocation of submissive obedience by authoritative instruction will not effect enduring correction of a child's crude inclinations. A further appeal must be made for the latter end. Erroneously practiced in education, this appeal is oftentimes to egotistic impulses of the child, while the only proper appeal that will result in enduring social character formation is the one to the child's innate protective

tendency, the latter being the only truly altruistic impulse with which man is natively endowed.

The believed knowledge that the adult acquires through reading is not accepted as valid essentially by virtue of submission to the authority of various writers, for new propositions offered in an article or a book are believed in so far as they are compatible with a large mass of previously tested knowledge. This at least is the case with the intelligent reader, who submits all new information to the rational test; that is, he considers it in its centrifugal relation to other things, in its universal relation in the broadest sense of the word. To him a fact is not a unit of knowledge isolated, but a unit of knowledge properly integrated in the whole system of our beliefs concerning the universe.

(4) The object perceived is an object believed. The truth of this statement can hardly be doubted, for unless it were valid the biological significance of the process of perception would be nil. Equally true, for the same reason, is no doubt the statement that the object striven for is an object of belief; the latter being the ground for the enduring beliefs formed by primitive credulity, and, indeed, for all emotionally induced beliefs. The second proposition is not independent of the first, for naïvely the object perceived is always a constituent of the object striven for. This relation becomes fully clear only in the light of a theory of perception propounded by the present writer in *Conation and Our Conscious Life.*

This theory is a psychic stimulus theory based on a strictly dualistic-interactionistic conception of the mind-body relation. The living being is a psycho-physical unit. By virtue of its physical property it is a constituent in an infinite physical continuum or field, any event in which might irradiate into the organism by purely physical process. Certain events in the physical field, however, may do more than merely irradiate into the body, notably those events which in a biological sense threaten the welfare of the organism, for these, we assume, call up mental activity on the part of the latter. This mental activity is adaptive in the broad sense of the word. There are two types of adaptive conduct: adaptation by deference and adaptation by defiance or control. The former consists in the

adjustments of the organism to the physical event; the latter, in the adjustment of certain constituents of the extrinsic physical field to the needs of the organism. The living being in virtue of its mental property is also a constituent of an infinite psychic continuum. Some of the highest activities of man, such as his aesthetic creations, are perhaps instigated by events in this psychic continuum.

During evolution, adaptive behavior becomes differentiated into distinguishable impulses. These are of two main kinds, the general impulses and the special impulses. The former are: primordial curiosity, the impulse to sleep, and primordial deference; the latter are the instincts. All these differentiated impulses are called into play by biologically significant events in the physical continuum; the instincts, each by their own special event; the primordial curiosity and primordial deference, by all significant physical events; and the impulse to sleep, by unduly extensive catabolic process within the body of the organism.

Of the primordial or general impulses only the impulse of curiosity is of significance for the process of perception. According to our theory, the latter impulse is the actual process of experiencing simple signs and symbols of events in the physical world, its most primitive mode of function yielding merely the awareness of simple unlikes and configurations of unlikes. This general impulse always co-operates with some variant of special conation called into activity by the same event in the physical field which instigated the former. In so far as physical event irradiates into the organism's body in the form of afferent nervous process, primordial curiosity responding to this organic continuation of external physical event yields the kind of unlikes called sensations.

The instinct is defined as an innate disposition to a specific kind of adaptive behavior subserving the satisfaction of a specific biological need of the organism. The instinct is activated as a unit by an event (X) in the physical field, the first phase of its function consisting in a general effervescence of its energies. This general excitation immediately irradiates into one or more of three sub-processes: the process of *emoving,* the process of *meaning,* and the process of *moving.* The

first two are conscious processes; the third is not. The process of emoving yields the affective awareness of a need and of an urge to remove the latter. The process of meaning yields the immediate knowing of an ego-object-relation-to-satisfy-the-above-need. The process of moving, if successful, establishes the latter relation.

Primordial curiosity always co-operates with the instinct yielding simple unlikes and configurations of unlikes symbolizing the exciting event (X). Those of the unlikes which stand for exteroceptor nervous process in which (X) has irradiated, fuse indiscriminably with the object of the ego-object-relation-to-satisfy the instinctive need. This fusion is essentially the process of simple perception by which the immediately known object of the latter relation becomes projected into space and spatial guidance of the instinctive behavior is effected. Interoceptor sensation in the same way fuses with the awareness quality yielded by the emoving process, this making for the differentiation of the specific emotions.

The terms of this theory unequivocally imply that the object perceived is also the object striven for, in the sense that the latter constitutes that which, brought into a certain relation to the self, will satisfy the need of the special impulse at work. I hold that my theory of perception, in its given or in a modified form, is valid on all levels of the animal kingdom; also that as a general proposition we have a right to infer experience in living organisms whenever the latter behave *as if* guided by such.

There is little comment needed upon the fact that an object for which, in the sense stated, a person has striven repeatedly and urgently becomes an object of enduring belief. The biological foundation of the principle that the object striven for is an object of belief is so powerful that, naïvely, even the imagined object of desire becomes an enhanced psychological reality. This is, accordingly, how the belief in fairyland and in the distinction of the primitive hero has to be explained—and probably all other emotionally induced beliefs.

(5) What is the impulse urging the interest in object-object relations? Logically it can not be derived from any

mode of special conation, because special conation always comprises the consideration of its goal in paramount ego-relation-to-satisfy-a-need. I suggest that all interest in object-object relations, that is, all rational consideration of things, as contrasted with the emotional, is ultimately motivated by primordial curiosity; this proposition by no means being hostile to the acknowledgment that, in most instances of impulsive life, the rational consideration of things subserves the attainment of the end of a special impulse.

Primordial curiosity, then, is one of the general impulses which differentiates during animal evolution. The most primitive function of the impulse—which is excited by biologically significant events in the physical world—yields merely simple awareness symbols of the latter events, more especially the awareness of simple unlikes which are distinguished from the self, spatially inter-related, and temporally related in contiguous series of changes. In the highest species, particularly in man, primordial curiosity undergoes a remarkable evolution, becoming the impulse which urges and accomplishes the relating of things, events and propositions in the most intricate and complex sense. This evolution is conditioned by the assumed proposition that primordial curiosity, on the level of development concerned, activates the individual memory-continuum, relating not only what is spatially present and temporally contiguous with the present, but also present with remote past, and past with past. This function of primordial curiosity is in full harmony with the general law of activation of the memory-continuum which seems to be this: Whenever an impulse is at work, those parts of the individual memory-continuum representing earlier events carried by that same impulse are prone to become activated. As primordial curiosity always co-operates with special conation, being always a part of any one active striving, it follows that this impulse also activates the memory-continuum, but, as it has been a co-operating agent in all earlier endeavor, it might activate any part of this continuum, not being restricted merely to fragments like the special impulses. This broader process of relating things to things results in the appreciation of enduring differences and enduring similarities between things.

The appreciation of enduring similarities between things, which is the psychological act of apperceptive synthesis, is the ground of all inference of relations by analogy. Through apperceptive synthesis yielding analogy evolves the appreciation of the spatially and temporally infinite and the appreciation of the cause-effect relation, the appreciation of the latter relation being due to a projection of the immediately known self as a change-producing agent into the things of the external world, the things that in some measure have been apperceived in accordance with the nature of the self.

On the basis of the appreciation of general spatial, temporal, and causal relations, the process of relating intricately individual things of high complexity can be performed. Important among the complicated relating processes are those involved in the performance of the resistance test of reality, as carried out on all planes of mental activity from the simple plane of perception to the complex plane of reasoning.

(6) G. F. Stout has offered an analysis of belief-engenderment which, in spite of limitations, seems to be compatible with the view expressed in the present treatise. Stout holds that belief is at once a condition of activity and conditioned by activity. To strive after an end is to strive after the means necessary for its attainment. Hence, in striving we strive after the belief which alone makes action to the end psychologically possible. Belief involves restriction of activity. In framing a belief we endeavor to represent real existence as it is in its own nature, independent of our individual consciousness. It is not within the range of our arbitrary selection to determine what means will lead up to a given end and what will not. This depends upon the nature of the real world. There must be, therefore, in the framing of a belief, always some endeavor to conform to conditions other than and independent of our own subjective tendencies.

There are, then, according to Stout, two factors which cooperate in the formation of belief, one subjective and one objective. Their relative importance may vary greatly. The influence of the subjective factor is more prominent on primitive stages of development. Primitive beliefs are nearly all relevant to the narrow circle of immediate practical needs.

Wherever these needs are involved, they take the shape in beliefs which often rest on extremely frail objective ground. Besides constituting the motive for the formation of belief, the subjective factor also contributes to determine the nature of the beliefs which are formed. When a negative judgment would paralyze activity, the active tendency is a force arrayed on the side of the positive judgment and vice versa. A body of belief is more fully organized in proportion as the denial of this or that combination of ideas which enters into its composition involves a greater and more destructive alteration in the whole system. The influence of pre-established convictions in determining the credibility or incredibility of a new suggestion is in its nature objective. Whatever is rejected because of inconsistency with them or whatever is accepted because its denial would be inconsistent with them, is accepted or rejected because it is felt to be implied in or excluded by the constitution of the real world.

No doubt, in the two great principles of belief-engenderment pointed to in the present work, there are implicit, respectively, Stout's subjective and objective factors. Indeed, he describes a certain aspect of the functioning of these principles, but he fails to reach the fundamental, for he gives no account of the motivation which urges activity in the objective acquisition of belief. Concerning the subjective factor it would seem that, connecting belief exclusively with the means to an end, he fails to recognize that the goal of an impulse—namely, the establishment of a certain ego-object relation—itself comprises belief and that both this relation and its object are comprehended as realities. This criticism can be rejected, however, on the ground that the goal of an impulse may be considered the satisfaction of a need, and the realization of the ego-object-relation-to-satisfy-the-latter a means to this end. Concerning the objective factor in belief-engenderment, Stout implies sufficiently that it is determined by and dependent upon a consideration of object-object relations in the broadest sense. In dealing with the latter, then, he again describes a certain aspect of the functioning of the rational principle of belief-engenderment, but his only account of its motivation lies in his

proposition that desire for an end is *eo ipso* the desire for its means, a view which hardly stands criticism.

(7) The 'wisdom of the ages' comprises an abundancy of statements supporting the theory of emotional and rational belief-engenderment.

(8) Delusions are defined as false beliefs, but what are true beliefs? The latter is a very difficult question, for it appears as if truth, psychologically, were a relative matter. Different people and groups of people have different opinions as to what is real or what is not real. Primitive men hold beliefs that seem ridiculous to civilized men. The emotionally induced beliefs are perhaps more likely to be invalid than the rationally founded convictions. Yet we can never be certain that even the rationally induced beliefs are more than approximately valid. In science where rational methods are used in the service of establishing scientific facts, different views appear in different schools.

William James maintains that, psychologically, there are several realms or worlds (sub-universes) of truth, such as the world of senses, the world of science, the world of "idols of the tribe," the worlds of the supernatural, etc. Each of these worlds has its own point of view. Every man and every culture group choose one or the other of these as the most real, referring to it all individual propositions, the latter becoming to him true in so far as they are compatible with the general point of view of the sub-universe of truth chosen. This explains the difference in regard to belief between the civilized man and the savage of today. The point of view of the former is, most essentially, the one of the world of science; the point of view of the latter, the one of the worlds of the supernatural. This also explains the difference in belief between civilized man of today and civilized man of ancient times, the ancient's point of view being like the savage's strongly determined by the worlds of the supernatural.

William James most briefly states the pragmatic criterion of truth as follows: a true thought is a thought that is an "invaluable instrument of action." McDougall accepts the pragmatic criterion of truth and argues that the latter is not incompatible with the 'correspondence criterion'. The simple

reason for this is that the only possible indication of a certain proposition corresponding to some reality is the fact that it guides to effective action. In the analysis, the pragmatic test of individual propositions turns out to be essentially the same as the testing of the latters' compatibility with tested knowledge at large.

The inborn belief in the reality of the ego-object-relation-to-satisfy-an-instinctive-need can be interpreted as a reality, pragmatically established in the course of progress of the species.

In the light of the pragmatic criterion of truth, which ultimately becomes the more real of James' sub-universes of truth? The answer is that the world of truth, the point of view of which, better than any other point of view, has served as an instrument in the progress of mankind, is the truest.

Broadly speaking, it is by rational consideration that we discover whether a proposition is true or false. It is by such consideration that we recognize delusions in our fellow-men, both the minor self-deceptions of every man, and the major erroneous opinions of mentally deranged individuals.

(9) True self-recognition is sometimes very painful to the normal man, because it might inflict a hurt upon his self-respect. This is particularly the case when true self-recognition compels the admission of one's own inferiority or of one's own guilt. In such instances, man is inclined to manipulate evidence concerning his inferior or criminal deed, aiming at the defence of the latter and, accordingly, at the eradication of the painful feelings of inferiority and guilt. This manipulation of evidence is essentially the process of rationalization. Rationalization is the caricature of true rational process. It utilizes the form of sound rational consideration of object-object relations; that is, it inter-relates things and propositions by *and, if,* and *because;* but the propositions thus inter-related are established upon emotional bias and upon the desire to escape from facing oneself frankly. It interestingly supports the rôle of rational process in belief-engenderment that, even in the phenomenon referred to, there is a superficial and erroneously mannered application of this process for the sake of supporting the defensive self-deception which, if successful, elimi-

nates the recognition of inferiority or guilt, or which, in extreme cases, even turns the inferior or the felonious deed into a subjectively virtuous act.

(10) The manic-depressive psychosis is probably partly the result of a disarrangement of the tool through which mind, as far as we know its activities, expresses itself. This disorganization is assumably due to a toxine, more especially to a chemical of the general nature of a depressant drug. It affects most profoundly such neural structures as have been built up in the individual growth of mind and as are instrumental in the manifestation of the higher mental processes of control, these in man being largely rational processes. The result as evinced in behavior is a breaking down of the control of crude instinctive tendencies, accompanied by a return to a tantrum level of conduct. The latter means that any crude impulse, immediately upon evocation, unfolds itself without deliberation in supreme intensity and with accentuated emotional tone. Indeed, the patient suffering from the malady concerned is living in a continuous state of emotional sub-excitement. On this as the background delusions appear which are of the nature of the paramountly emotionally induced beliefs of the little child and of the primitive man. During the course of the disease they remain uncorrected, for the reason that the instrument indispensable in the production of a corrective rational consideration of the objects of the false beliefs is transitorily completely deranged. As the toxic influence upon the brain gradually wears itself out, the rational processes reassert themselves and the delusions become rectified.

Of theoretical interest is the fact that the more primitive of the two great principles of belief-engenderment, notably the emotional principle, becomes dominant when the higher principle, the rational, is impeded on account of disarrangement of its tool of expression. This demonstrates again directly and indirectly the rôle of the two principles in belief-engenderment, and also the fact that frequently they are antagonistic in function, the latter exerting control and correction of the convictions induced by the former.

The credulity we manifest during dreaming might be akin to the credulity of the deluded manic-depressive patient. In

both instances there is probably an impairment of the rational processes because of a toxic influence on the brain-cortex, the instrument of rational consideration of things. Beliefs which are, then, essentially emotionally determined remain in both cases uncorrected by proper consideration of object-object relations.

(11) Delusions constitute the most conspicuous symptom of the schizophrenic disorder. The neuro-pathology of this disease is as yet not established. If a toxic agent is involved, which by no means is certain, we might with fair assurance assert that the latter is not, as in the manic-depressive psychosis, a chemical of the depressant group. Schizophrenia is probably a disease, the roots of which reach back into early life. I have even propounded that inborn egotism is a part of the disorder. The delusion-formation in schizophrenia resembles, in principle, the formation of self-deceptive beliefs in the normal, but it differs from the latter by the fact that the false beliefs in schizophrenia comprise a larger mental content, sometimes the total thinking-sphere of the patient. Accordingly, the deterioration of rational process is more profound than in the case of the normal man's self-deception. The delusions of the schizophrene differ from the latter also in this respect that they are always preceded by prolonged periods of compensatory day-dreaming, subserving the escape from painful self-recognition of inferiority or of guilt. The most important difference between the delusion-formation in schizophrenia and that in the manic-depressive psychosis lies in the fact that in the latter the deterioration of the rational process is due to a toxic disturbance of its tool of expression, the brain, while in the former disorder it is due to a process of active inhibition by repression.

The prototype of schizophrenic delusion-formation is as follows: The pre-psychotically egotistic patient, like all extreme egotists, is continually thwarted by his social group in his endeavor for self-gratification. This forces upon him the recognition of his own inferiority and frequently also of his own guilt. As a reaction to this situation, he withdraws from social relations and commences day-dreaming, compensatory to the inferiority and guilt feelings, the compensatory dreams being, respectively, the dream of his own eminence and the dream

of himself as the victim of persecution on the part of fellow-men. Day-dreaming gradually comes to occupy the major part of his waking life; it is pleasing to him because the dreams are determined by his wishes and represent the imaginary gratification of the latter.

Coinciding with this preoccupation with fantasy, he begins, on the one hand, to disregard all rational evidence hostile to the reality of his dream; on the other hand, to build up superficial support of the latter through rationalization. Both these activities, the negative as well as the positive, finally result in a weakening by repression of the normal rational function and of the rational impulse. As such inhibition becomes complete, his dream becomes subjectively equivalent with reality. He believes his dream to be true and he begins to act upon it as if it were true, this sooner or later leading to serious social maladjustment and to confinement in an institution.

Theoretically, the delusion-formation in schizophrenia is of interest because, just like the development of false beliefs in the manic-depressive psychosis, it demonstrates positively and negatively the rôle of the two great principles of belief-engenderment, the emotional principle which in the case concerned generates the daydream, and the rational principle which, withdrawn from corrective influence upon the dream, permits it to attain reality by purely emotional belief-induction.

(12) The reality of instinctive action implies that living beings are guided by racial memory, for the immediate knowing of the ego-object-relation-to-satisfy-an-instinctive-need, yielded by the meaning sub-process of the instinctive impulse, must be based upon racially acquired experience. With the acquisition of an individual memory-continuum, the individual past becomes increasingly the guide of action.

The term individual memory-continuum has two connotations: on the one hand, it connotes the experience of consecutive recollection of series of past events; on the other hand, it connotes the enduring mental structure carrying such memory, or in other words, the enduring disposition to think the past.

Experiences are confined to the individual memory-continuum, the most important units of experience thus confined

being the knowing of total cycles of conation, successful as well as failing ones. The knowing of a total cycle of conation comprises all the awareness symbols yielded during the course of the latter, that is, all emotion, all meaning, the feeling of satisfaction or dissatisfaction that ensues from successful or failing endeavor respectively, and, in addition, the appreciation of the total inter-relation of these, the latter being yielded by primordial curiosity sustained in activity by the final change produced by a special impulse and urging an immediate retrospect upon the whole course of the endeavor. Confined to the memory-continuum, these units of past conation are prone to be activated whenever the impulse is again at work which originally carried the latter. That is why past experience is recalled in connection with present endeavor, and the law of its revivification is the law of affinity of cognitive dispositions. Primordial curiosity which has co-operated in all past conation is at liberty to activate any part of the individual memory-continuum.

(13) Our memories are apprehended as realities of the past, this mode of apprehension of the latter being as basic as the apprehension of the goal of a striving as a reality, or as the apprehension of all things perceived as realities.

Is 'a belief' merely a disposition to think? There are two reasons—one psychological and one logical—to assume that 'a belief' is also an energetic mental unit, that it has a conative property. The former is the fact that belief guides conduct. If we take the standpoint that guidance of one impulse can be effected only by another impulse, which is the truly hormic viewpoint, the guidance of conduct by belief can be reconciled with general psychological theory only if we ascribe conative property to the belief. The logical argument for such a proposition is as follows: The law of affinity of cognitive dispositions states that all units of memory once carried by the same special impulse are liable to become activated whenever the latter impulse functions anew. This represents a similarity between all these units, a similarity that primordial curiosity, exploring the memory-continuum, discovers through apperceptive synthesis. This results in a grouping of things into categories for which human language finds such

names as edibles, dangers, lovables, and so forth—names which imply in each case the common conation concerned.

The realities form one category of things. In view of the previous statement we may then logically ask: What is the conation that yields to things the property of being real? It can be neither a special conation nor primordial curiosity. Propositions to these effects fall on their defective logic. In *Conation and Our Conscious Life* I have suggested that the conative property of belief is a primordial or general impulse of deference, which, together with curiosity and sleep, constitutes the three general impulses into which conation has differentiated during evolution. In view of the fact that the majority of events in the physical continuum are events to which the living organisms can adapt themselves only through deference, it is easy to conceive that a general impulse of that kind should evolve and grow strong very early in the evolution of the animal kingdom.

By native organization of mind some psychological objects are immediately invested with deferent impulse. This is true of the immediately known ego-object-relation-to-satisfy-the-need of a special conation, of all objects perceived, and of the comprehension of all total cycles of conation as confined to the memory-continuum. The acquired beliefs in complex relations, whether established by emotional or rational process, the moment when they have risen into enduring beliefs, represent psychological objects to which we defer as the carrier of certain known properties. Belief-formation thus represents the investment of an object with deferent impulsive energy; the abandonment of belief, the detachment from an object of deferent impulsive energy.

(14) The memory dispositions, then, of past success or failure are more than dispositions to think past events; they are, also, dispositions to defer to the latter as past realities. A unit of memory, then, is a cognitive-conative disposition. This accounts, in a consistent hormic manner, for its power of guiding present conduct, the prototype of all guidance of the present by the past being as follows:

Suppose that a special impulse (I) progresses inadequately, failing to attain its goal, a reaction that we shall call (RF).

The comprehension of this conative cycle as a unit of unsuccessful mental activity is yielded by primordial curiosity, the comprehension of this unit as an object of belief being yielded by primordial deference. Confined to the memory-continuum, this unit constitutes a meaning-believing disposition to think as a reality the course of failure. We shall call this disposition (MDF). Suppose further that the unsuccessful special impulse immediately after the failure (RF) urges a new reaction which is successful and adequate to the need of the organism (RS). This new successful cycle is comprehended as a unit through primordial curiosity and as an object of belief through primordial deference. As such, it is confined to the memory-continuum as a second meaning-believing disposition, the disposition to think as a reality the course of success (MDS). Suppose that some time later the special impulse (I) is again called into play by the same event in the physical field that instigated its activity on the earlier occasion. The impulse immediately produces the meaning of an ego-object-relation-to-satisfy-its-need. But, due to the affinity of cognitive dispositions built around equivalent conation, it also activates the memory-continuum, more especially the two meaning-believing dispositions (MDF) and (MDS). Let us assume that the subsequent phase in the unfolding of impulse (I) tends towards the inadequate reaction (RF). This direction of the impulse is, then, immediately counteracted by and perhaps fully inhibited by the deferent impulse of (MDF). This route blocked, the impulse seeks outlet through the second route into the proper reaction (RS). In this instance the deference of (MDS) co-operates with the new trend of the impulse, adds its energy to the energies of the latter, and promotes successful goal-attainment.

Whenever a special impulse is at work, events in the physical field, which otherwise would have called into play other impulses, fail to do so, a phenomenon that probably has its explanation in drainage of energy. This restriction is not valid with regard to primordial curiosity and deference. The latter impulses react to all events in the physical world which are related in some manner to the adjustive activity of the special impulse. Such events may be of two kinds: either

events that counteract or events that further the latter activity. These events, due to the activation of primordial curiosity, yield their own meaning symbols, being comprehended as obstacles and means respectively. Due to their coinciding activation of primordial deference, they are comprehended as realities. The deferent impulse of the obstacle always conflicts with the special impulse; the deferent impulse of the means-object always co-operates with the latter.

(15) Spearman discovered that in all cognitive activities, independent of their diversity, there enters one common function or factor, the function of apprehending relations and of educing correlates. He calls this factor "G." "G," he claims, is fairly constant for each individual but varies greatly from man to man. Theoretically, he conceives "G" as the total quantity of psycho-physical energy available to an individual. McDougall criticizes this interpretation of "G" and offers a reinterpretation in hormic terms. He thinks of "G" as the ability of concentrating effort effectively upon a task at hand. Such ability, he holds, is proportional with the degree of well-knit integration of character.

In the light of my theory of belief, a sentiment becomes an instinct modified by acquired guiding and supporting beliefs; and character becomes the result of one sentiment attaining mastery through its effective guidance and paramount support by a large system of acquired beliefs. Character, consequently, appears to be determined, on the one hand, by the strength of our system of beliefs and, on the other hand, by the efficacy with which the latter apply themselves to rapid and proficient guidance of conduct. The strength of belief, in turn, is measured by the total quantity of energy of the primordial impulse of deference; the efficacy of application of beliefs to guidance, by the capacity of apprehending subtle relations, that is, by the subtlety of functioning of the primordial impulse of general curiosity.

If, then, "G" is a function of the integration of character, it is ultimately determined by the two general impulses mentioned.

McDougall, in one of his earlier works on general psychology, defines intellect as "the system of our beliefs." In

this I agree; yet I maintain that each belief is an energetic unit of mind essentially of the nature of a sentiment, and that, accordingly, the integrated system of our beliefs is a complex energetic unit of our mind comparable with character. This being so, the difference is eradicated between intellect and character, a difference which is maintained by most psychologists to the detriment of a systematic understanding of human nature.

In a later work McDougall identifies our intellect with the sum total of our innate and acquired cognitive abilities. The latter, he considers non-energetic and purely instrumental. I object to this view on the ground that, as a general proposition, I hold whatever is merely instrumental to mind to belong to the tool of mind, the body; each unit of mind itself being a cognitive-conative disposition and a seat of energy expressible, on activation, in directed force. I suggest that we conceive the abilities as properties of the nervous system, and the result of disjunctive and conjunctive growth within the latter.

(16) Most of the single words of a civilized language directly or indirectly stand for psychological realities, whether the latter be things in the narrow sense of the word, activities, qualities, or relations—spatial, temporal, or causal. Consequently, any one proposition, even the one known to be false and, accordingly, denied, as long as it is formulated in words, contains constituents or elements which in their isolation are believed to be real, in spite of the fact that the proposition as a whole is an object of negative belief. Thus, the proposition that the elephant is scarlet is recognized as false. The isolated constituents of which it is formed, however, these constituents which correspond to the meaning of the single words of the proposition, are realities. Thus elephant is a reality, and so is the fact of being or existing, and the quality or attribute 'scarlet-ness'. Other propositions may comprise, on the one hand, sub-propositions which are positive realities, on the other hand, sub-propositions the validity or reality of which is neither believed—positively or negatively—nor doubted. Example of the former would be the proposition: a cannon-ball was shot across the ocean. This is recognized as a false proposition, yet its sub-proposition: a cannon-ball was shot, is fully valid.

The latter occurs in so-called suppositional propositions. Example: If there are no matches in the box, somebody must have used the latter. Here the total proposition is an object of positive belief while the suppositional proposition that there are no matches in the box, is neither believed—positively or negatively—nor doubted. Finally, there is a group of propositions believed as wholes, which may comprise sub-propositions of negative belief. Example: If man were a triped instead of a biped he could not dance a fox-trot.

Are there any attitudes of mind in which we think major propositions or whole series of events without these being of any reality-concern; that is, are there any attitudes of mind in which we apprehend without either believing or doubting the object apprehended? There are probably two conditions when this is the case—on the one hand, the condition of purely aesthetic contemplation; on the other hand, the condition of purely logical contemplation. Whenever we either enjoy or create aesthetically, the reality of our object of contemplation is of no concern to us. In the same way, whenever, independently of any practical purpose, we reason out the course of a series of events as the latter would occur on the ground of certain postulates that may themselves be true or false, we are apprehending without any concern as to the reality of the total string of conclusions made. In both instances, however, we have to keep in mind that the condition of apprehension without deference is only approximate, for the simple terms in which we think are still standing for psychological objects, the reality of which we affirm, and in both the types of contemplation referred to the proposition contemplated may be constituted of sub-propositions which are objects of belief; this not excluding that there may also be sub-propositions which are suppositional, that is, which in themselves are neither believed (positively or negatively) nor doubted.

I suggest that the major motive of both the aesthetic and the logical contemplation is a rational impulse and, accordingly, an impulse derived from primordial curiosity. The total conation of the two attitudes, then, would be primordial curiosity supported by deference to the elements of the aesthetic or the logical proposition. But, in addition, in both instances there

is a deference to certain laws of order of things, laws which ultimately might be of related nature. The two attitudes described are evidently similar, the difference between them being essentially that in the aesthetic attitude there is comprised an openness to any suggestion of moods by the art-object.

It is interesting to note, then, that in the attitudes approximating apprehension without deference, no special conation ever enters. This indirectly leads us to conclude that special conation, although it does not necessarily determine the reality of things, yet determines the reality-concern of the latter.

It is possible to interpret the absence of reality-concern in aesthetic and logical contemplation as due to inhibition of all special conation relative to the objects contemplated.

(17) G. F. Stout has inquired into the relation between apprehension and belief in the following three states of mind: (1) the state of doubt, (2) the state of make-believe, and (3) the state of aesthetic contemplation. He finds that in none of them obtains more than a relative divorcement of apprehension and belief, this divorcement being most marked in the state of aesthetic contemplation. In a discussion of creative imagination he expresses opinions closely harmonious with my own. He fails, however, to give any account of the motivation underlying creative imagination and aesthetic contemplation at large.

McDougall, like Stout, acknowledges a relative divorcement between apprehension and belief in the state of aesthetic contemplation. Although in his *Outline of Psychology* he seems to imply that aesthetic contemplation is independent of conation, in his later work, *The Energies of Men,* he propounds the hypothesis that admiration is an important motive in all aesthetic contemplation. Admiration he conceives of as an emotion arising when the instincts of curiosity and of submission are simultaneously at work.

Neither Stout nor McDougall acknowledge the existence of a purely logical mode of contemplation in which there is also a relative divorcement between apprehension and belief or deference.

(18) William McDougall has propounded the view that belief and doubt as modalities of experiencing are derived emo-

tions, more especially prospective emotions of desire. An important feature of this theory is that these prospective emotions of desire are not themselves energetic agents, but merely qualifications of experience arising in the course of any one purposive activity depending upon the anticipation of success or failure of the endeavor concerned.

This view cannot be logically harmonized with the general theory of belief laid down in the present work. That is, if the latter theory is valid, McDougall's theory falls; if on the other hand, in the light of criticism, it should prove to be invalid, his theory will stand as the most adequate and plausible interpretation of belief and doubt as modes of experience that has as yet been offered.

If we assume, as we have done, that 'a belief' is a cognitive-conative disposition, we are bound to consider the experience of belief as an awareness quality coinciding with the function of 'a belief.' Since belief, in all practical endeavor, never functions alone, but always in conjunction with primordial curiosity and special conation, we are also compelled to the view that the quality of belief is an unknown (X) that is never experienced per se. Confidence, on the other hand, is experienced, and I suggest that confidence is an emergent quality resulting from a fusion of the (X) of belief with a certain component of the awareness yielded by the emoving subprocess of special conation. Since confidence might appear in the course of any mode of special conation, yet always qualitatively alike, the constituent yielded by the latter conation must be one that is common to all special impulses. The only one, then, in question would be the experience of urge or of striving that accompanies the working of any special conation. In summary, confidence is an experience emerging from a fusion of (X), the quality proper of belief, with the feeling of striving yielded by any special impulse.

There are other emergent qualities resulting from the fusion of (X) with feeling of striving. These vary in proportion to the degree of conflict between deference of belief and special conation. The relations more especially are as follows: If during the goal-seeking activity a belief is activated, the deference of which supports the central conation,

then the quality of confidence appears. If a belief is activated, the deference of which conflicts only slightly with the central conation, confidence changes into hope. If the deference of belief conflicts more severely with a special impulse, hope turns into anxiety or doubt. If the counteraction of the central impulse by conflicting deference of belief is very powerful, anxiety is transformed into despondency; and, finally, if the deference of a belief is sufficiently strong to deadlock the central impulse, despondency turns into despair.

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